



Lower Yolo Restoration Project

Draft Environmental Impact Report

April 2013



Volume 2
Technical
Appendices



State Clearinghouse No.
2011032001

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Technical Appendices to the Lower Yolo Restoration Project Draft Environmental Impact Report

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Appendix A

Notice of Preparation/Initial Study for the Proposed Lower Yolo Restoration Project

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Notice of Preparation

To:

From: State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting

The State and Federal Contractors Water Agency will be the Lead Agency under the California Environmental Quality Act and will prepare an environmental impact report (EIR) for the proposed project identified below. We are requesting input from government agencies, other organizations, and private citizens regarding the scope and content of the environmental information to be included in the EIR. Responsible agencies are requested to indicate their statutory responsibilities in connection with the proposed project. Public agencies receiving this Notice of Preparation may need to consider the EIR prepared by our agency if they need to issue permits or other approvals for the proposed project.

The project description, location, and the potential environmental effects are contained in the attachment. A copy of the Initial Study (is is not) attached. The full version of the Initial Study can be viewed or downloaded at: http://www.swampting.org/Downloads/Lower-Yolo-NOP-IS_2011-0225.pdf or in hard copy by request.

Public Scoping Meeting: A public scoping meeting for this project has been scheduled for: Tuesday, March 15, 2011 from 7:00PM to 8:30PM at West Sacramento City Hall, 1110 W Capitol Ave #1, West Sacramento, CA 95691. The purpose of the meeting is to receive comments regarding potential environmental issues related to the proposed project.


Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response or questions to Curt Schmutte at the address shown above or via email at schmutte@sfcwa.org. We will need the name for a contact person in your agency.

Project Title: Lower Yolo Bypass Restoration Project

Project Applicant, if any: State and Federal Contractors Water Agency

Date: February 25, 2011

Signature: 

Title: Executive Director

Telephone: 916-719-9408

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15378.

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NOTICE OF PREPARATION/INITIAL STUDY LOWER YOLO RESTORATION PROJECT

February 25, 2011

State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

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LOWER YOLO RESTORATION PROJECT
Notice of Preparation/Initial Study

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1 **A. Project Information**

2 ***A.1 Project Title***

3 Lower Yolo Restoration Project

4 ***A.2 Lead Agency Name and Address***

5 State and Federal Contractors Water Agency (SFCWA)

6 1121 L Street, Suite 802

7 Sacramento, CA 95814

8 ***A.3 Contact Person and Contact Information***

9 Curt Schmutte

10 916-650-2626

11 Schmutte@sfcwa.org

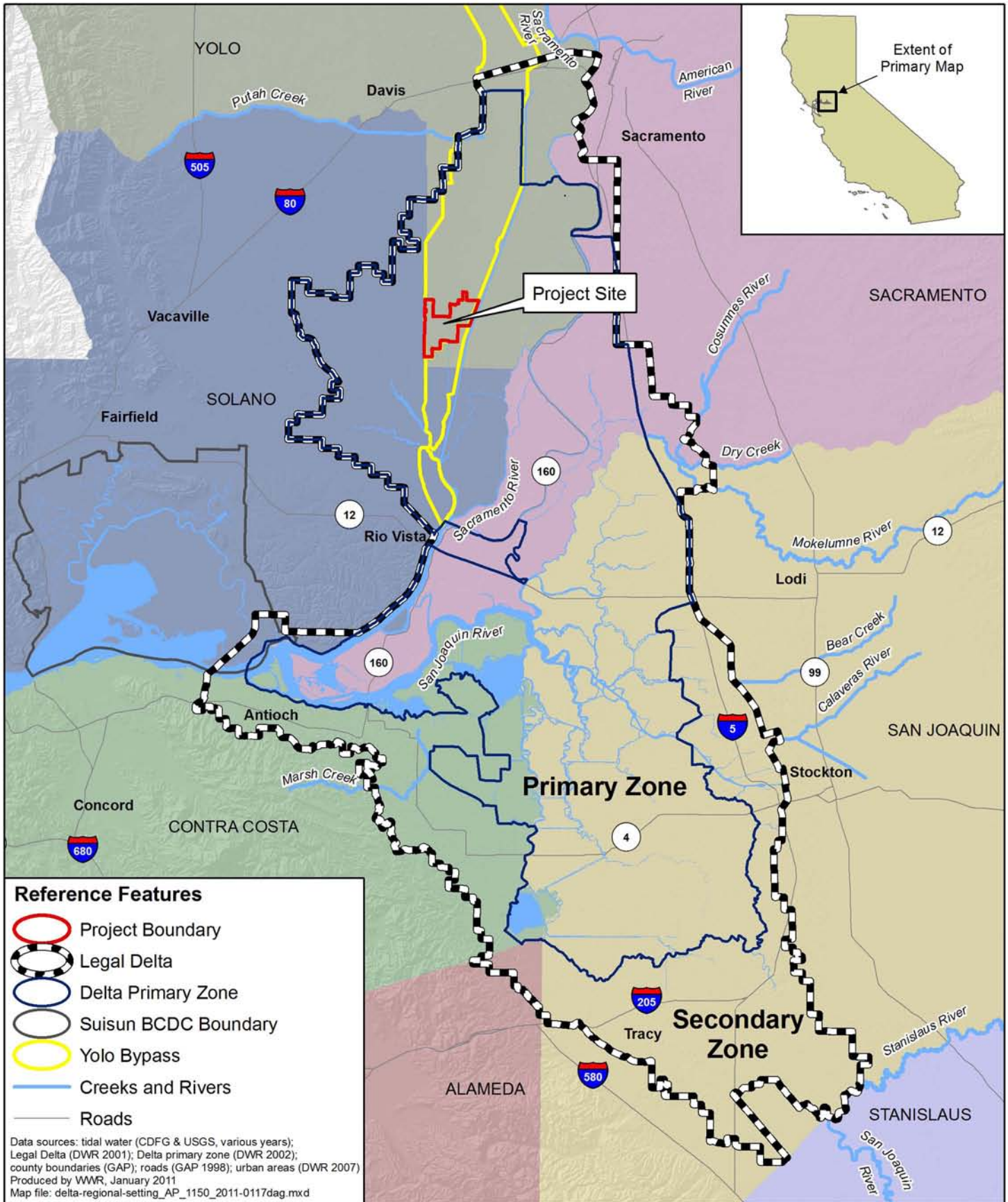
12 ***A.4 Project Location***

13 The Lower Yolo Restoration Project is located on the northwestern edge of the Sacramento-San
14 Joaquin River Delta at the extreme southern end of the Yolo Bypass near Cache Slough (**Figure**
15 **1**). The site encompasses two contiguous parcels: Yolo Ranch (3496 acres) and Yolo Flyway
16 Farms (430 acres) (**Figure 2**) located along the historic wetland-upland edge of the Yolo Basin.

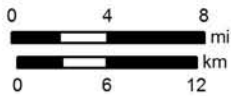
17

18 APN's: 033-220-49; 033-270-01, 033-270-03, 033-270-07; 033-280-02, 033-280-14; 033-370-01,
19 033-370-02; 033-380-02, 033-380-03, 033-380-07; 033-390-01, 033-390-02, 033-390-05

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SFCWA
 State & Federal Contractors
 Water Agency

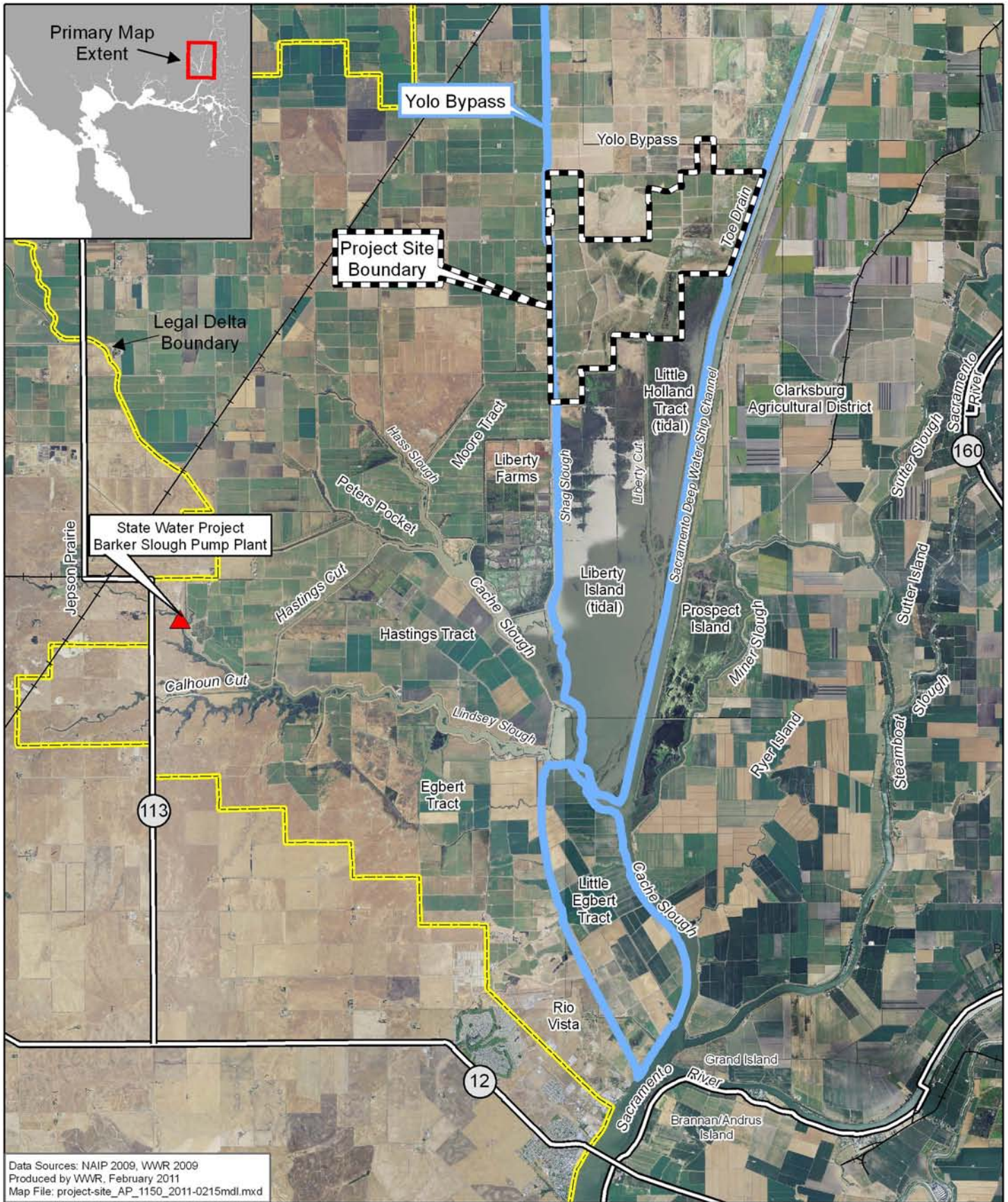
DELTA REGIONAL SETTING

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

January 2011

Project 1150

Figure 1



Primary Map Extent

Yolo Bypass

Project Site Boundary

Legal Delta Boundary

State Water Project Barker Slough Pump Plant

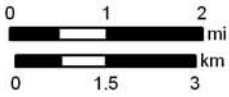
Jepson Prairie

113

12

Data Sources: NAIP 2009, WWR 2009
 Produced by WWR, February 2011
 Map File: project-site_AP_1150_2011-0215mxd

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SFCWA
 State & Federal Contractors
 Water Agency

**PROJECT SETTING WITHIN
 CACHE SLOUGH REGION**

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

February 2011

Project No. 1150

Figure 2

1 ***A.5 Project Sponsor’s Name and Address***

2 State and Federal Contractors Water Agency
3 1121 L Street, Suite 802
4 Sacramento, CA 95814

5 ***A.6 General Plan Designation***

6 AG: Agriculture, with Delta Protection Overlay (DPO)
7 (Source: Yolo County GIS, 2010)

8 ***A.7 Zoning***

9 General Agriculture (A1), Agricultural Preserve (AP)
10 (Source: Yolo County GIS, 2010)

11 ***A.8 Description of Project***

12 ***A.8.1 Existing Site Conditions***

13 The Lower Yolo Restoration Project (proposed project) including all the associated landscape
14 modifications is located on approximately 1,950 acres of the 3,900-acre site at the extreme
15 southern end of the Yolo Bypass near Cache Slough (**Figure 2**). Being within the Yolo Bypass, the
16 largest floodwater bypass of the federal Sacramento River Flood Control Project, the site often
17 receives significant flood flows during the winter-spring rainy season (November – May) that
18 can submerge the property up to 15 feet or more.

19
20 **Site Topography and Drainage.** The topography of the site is primarily flat, with an almost
21 imperceptible slope descending from the northwest to the southeast. Much of the site is at
22 elevations above modern mean higher high tide (+6.5 ft NAVD88¹), with elevations ranging
23 between +6.5 to +15 ft NAVD88. Maximum elevations of +15 ft NAVD88 and above are located
24 in the extreme northwestern corner of the property near the intersection of Levee and Delhi
25 roads. Approximately one quarter of the site is within intertidal ranges of +2 to +6.5 ft NAVD88.
26 Many pastures have been graded to drain to agricultural drainage ditches. To prevent tidal
27 flooding, the hydrology of the site is intensively managed through a series of flood/drainage
28 ditches, tidegates, flapgates, and other associated infrastructure.

29
30 **Land Use.** During the summer, the entire property is used for cattle grazing (**Figure 3**). To
31 support grazing, the entire site except a small area in the very southwest corner is extensively
32 irrigated with waters diverted from Shag Slough, the Stair Step, and the Toe Drain to support

¹ The North American Vertical Datum of 1988

LOWER YOLO RESTORATION PROJECT
Notice of Preparation/Initial Study

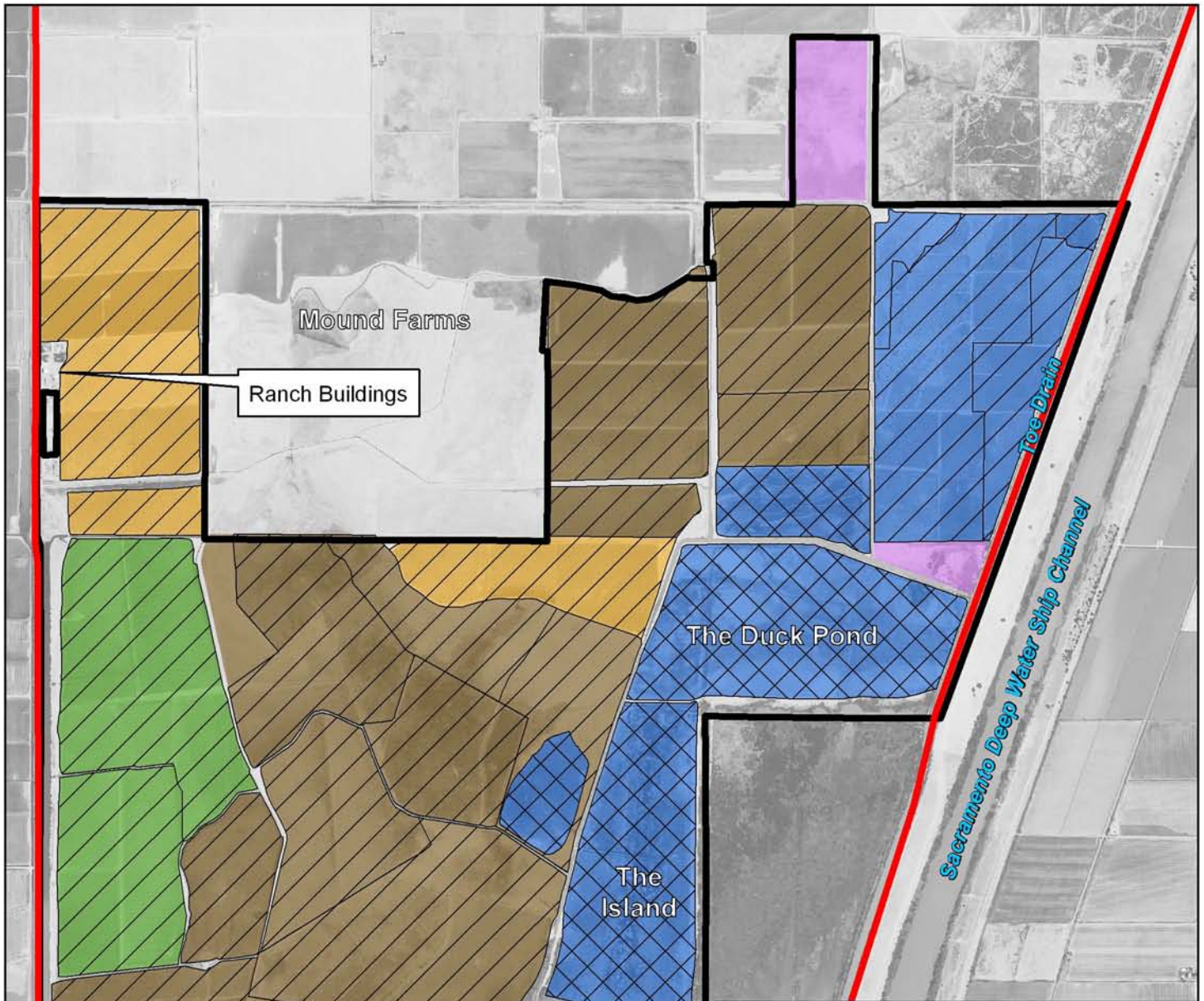
1 forage production. Limited hay production occurs along the western portions of the site.
2 Grazing takes place on existing seasonal and perennial wetlands that cover roughly 40% of the
3 property. During the winter, portions of the site encompassing approximately 865 acres are
4 managed as ponds for duck hunting. These latter parcels comprise approximately one fifth of
5 the project site.

6
7 Before being diked off for agriculture in the early 1900s, the site likely contained a matrix of
8 grasslands, seasonal wetlands, perennial open water “backwater lake” features, and tidal
9 marsh.

10

11 **Infrastructure.** The limited infrastructure on the property is focused on supporting cattle
12 ranching and water management operations. Dirt roads and cattle fencing cross the entire
13 property. Ranch buildings including small homes, barns, and other outbuildings are
14 concentrated solely in the northwestern corner of the property, within an area enclosed by a
15 restricted-height levee and outside the restoration project footprint. The restricted height levee
16 is meant to keep smaller Yolo Bypass floods out but to be overtopped during large flood events
17 to provide added flood water storage. Multiple abandoned (plugged) gas wells occur
18 throughout the property, and high-voltage power lines cross the property’s northwestern
19 corner. Low-voltage power poles are present along the western side of the property, the ranch
20 complex, and the northeast portion of the property near the “duck pond” and the Yolo Flyway
21 Farms property. The Yolo Bypass flood control levees are located along the eastern and western
22 edges of the property, and serve to contain flood flows within the Yolo Bypass. Small internal
23 berms are located throughout the property for the purpose of managing irrigation water. Water
24 exchange between the project site and the adjacent tidal water bodies is regulated by a series
25 of water control structures. These structures are operated differently throughout the year;
26 during storms they are opened to allow stormwater drainage. The remainder of the year they
27 are closed to allow tidal surcharge of the irrigation canals.

28



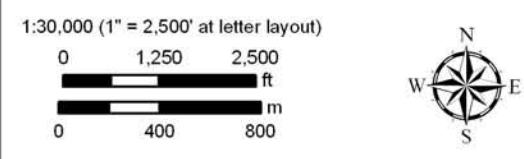
Legend

- Cattle Grazing
- Cattle Grazing and Hay Production
- Cattle Grazing, Possible Hay Production
- Cattle Grazing and Duck Hunting
- Fallow
- Summer Irrigation
- Winter and Summer Irrigation

Reference Features

- Site Boundary
- Yolo Bypass Boundary

Data Sources: air photo (NAIP 2009), infrastructure and land use data (CBEC 2009, modified by WWR in 2010)
 Produced by WWR, February 2011
 Map File: land-use_project-site_AP_1150_2011-0215mxd



SITE LAND USE

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

February 2011	Project No. 1150	Figure 3
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A.8.2 Project Goals and Objectives

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31

This proposed project is being undertaken as partial fulfillment of the 8,000-acre tidal restoration targets contained within the Reasonable and Prudent Alternative of the U.S. Fish and Wildlife Service Delta Smelt Biological Opinion (USFWS 2008)² and the National Marine Fisheries Service Salmonid Biological Opinion (NMFS 2009) issued to the California Department of Water Resources (DWR). The project would also serve as partial fulfillment of tidal restoration objectives under the Bay Delta Conservation Plan. The primary goals of the project are (1) to enhance regional food web productivity in support of Delta Smelt recovery and (2) to provide rearing habitats for outmigrating salmonids utilizing the Yolo Bypass. The secondary goals are (3) to support a broad range of other aquatic and wetland-dependent species, including Sacramento splittail, and (4) to provide ecosystem functions of the Delta freshwater tidal marsh – floodplain – seasonal wetland – lowland grassland interfaces. Because of its position at the Delta margin, the site inherently provides extensive wetland-upland transitional habitats potential and it can accommodate sea level rise for many decades through marsh expansion landward.

SFCWA is undertaking this project in cooperation with DWR based upon mutual agreement that cooperative efforts can reduce costs and speed implementation to meet the restoration requirements in the two biological opinions. SFCWA is a joint powers authority comprised of public agencies that receive water from the State Water Project (“SWP”) or the federal Central Valley Project (“CVP”), and SFCWA’s powers specifically include entering into agreements with State agencies for planning and development of conservation measures to protect species dependent on the Delta.

On November 9, 2010, the Yolo County Board of Supervisors adopted an ordinance establishing a 22-month moratorium on certain habitat projects associated with converting agricultural lands within the County to fishery restoration. The ordinance includes an exemption for “Any covered habitat mitigation project(s) undertaken by a person that enters into a Memorandum of Understanding or similar written agreement with the County addressing implementation of such project(s).”

² On December 14, 2010, Judge Oliver Wanger of the United States District Court for the Eastern District of California issued a decision in the Delta Smelt Consolidated Cases that challenged the 2008 U.S. Fish and Wildlife Service’s Biological Opinion addressing the impacts of the coordinated operations of the federal Central Valley Project (CVP) and State Water Project (SWP) on Delta smelt. That decision ruled on the science support for flow recommendations and did not make any alterations to the 8,000 acres of tidal restoration within the Reasonable and Prudent Alternatives in the Biological Opinion. Consequently, the requirement being fulfilled by the Lower Yolo Restoration Project remains.

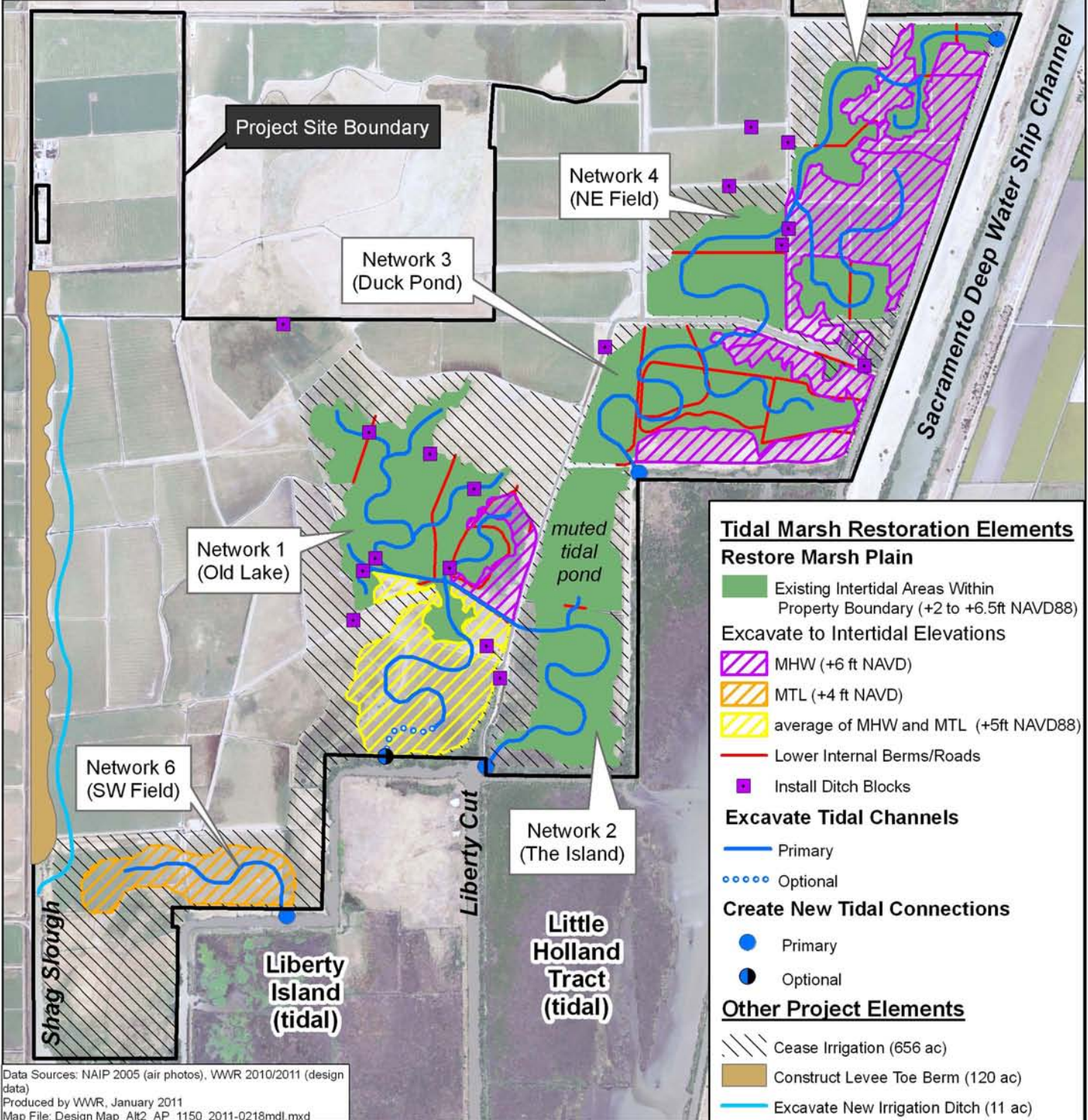
1 **A.8.3 Wetland Restoration Project Alternatives and Elements**

2 ***A.8.3.1 Project Overview***

3 The proposed project includes modifications to approximately 1,950 acres of the 3,900-acre site
4 (**Figure 4**). Actions within the ‘proposed project footprint’ would include (1) restoring
5 approximately 1,100 acres of intertidal wetlands and 70 acres of subtidal channels (‘restoration
6 footprint’), (2) constructing a 120-acre levee toe berm and a 10-acre irrigation and drainage
7 ditch, (3) removing agricultural irrigation from approximately 650 acres surrounding the
8 restored wetlands (‘wetland buffer’), and (4) relocating several water control structures and
9 some irrigation and drainage ditches. Tidal restoration would be accomplished by eliminating or
10 moving existing water control infrastructure elements, excavating new tidal channels to
11 connect restoration areas to existing intertidal areas adjacent to the site and grading down
12 some lands slightly above current intertidal elevations. Soils excavated from the restoration
13 areas and the newly constructed irrigation and drainage ditch would be used to construct the
14 levee toe berm on the project side of the western Yolo Bypass levee. Surrounding the restored
15 wetlands would be an additional 650 acres on which agricultural irrigation would be
16 discontinued. Seasonal cattle grazing would be utilized within this ‘wetland buffer zone’ as a
17 vegetation management tool. In order to ensure that irrigation and drainage needs of the
18 remainder of the site and of adjacent properties are maintained, the proposed project would
19 relocate a number of water control structures and some irrigation and drainage ditches. Areas
20 on the property that are outside of the project footprint would remain in their current
21 condition and would continue to support agricultural operations following project
22 implementation.
23

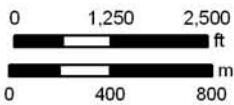
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Network	Tidal Marsh Area (ac)	Channel Area (ac)	Channel Excavation Volume (cy)	Marsh Excavation Volume (cy)
Old Lake - Island	473	31	299,472	488,739
Duck Pond - NE Field - Toe Drain	557	31	287,926	383,039
SW Field	64	5	50,723	411,315
Total	1,094	67	638,120	1,283,093



Data Sources: NAIP 2005 (air photos), WWR 2010/2011 (design data)
 Produced by WWR, January 2011
 Map File: Design Map_Alt2_AP_1150_2011-0218mdl.mxd

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RESTORATION DESIGN FEATURES - PROPOSED PROJECT
 Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

February 2011

Project No. 1150

Figure 4

1 ***A.8.3.2 Restoration of Tidal Marsh***

2 Under the proposed project, approximately 1,100 acres of tidal marsh along with 70 acres of
3 tidal marsh sloughs would be restored. Approximately 700 acres of proposed tidal marsh is
4 currently at intertidal elevations and the additional 470 acres would be constructed by grading
5 down higher elevation lands to a range of intertidal elevations, all graded to drain to the tidal
6 channels. Where grading takes place, three grading elevations would be employed for the
7 purpose of providing an adaptive-management, scientific evaluation of the relationship
8 between restored marsh plain elevation and magnitude of ecosystem functions provided.
9 Grading elevations would be to mean high water (MHW), mean tide level (MTL), and midway
10 between MTL and MHW. This grading would require excavation of approximately 1.92 million
11 cubic yards of soil, of which 638,000 cubic yards would be for channel creation.

12 ***A.8.3.3 Construction of Tidal Channel Networks***

13 Tidal channel networks would be excavated to facilitate the movement of tidal water between
14 tidal sources such along the Stair Step and Toe Drain, and the restored tidal marsh. The
15 proposed project includes six tidal basins and channel networks: Old Lake, Island, Duck Pond,
16 Northeast Field, Toe Drain and Southwest. These channel networks are summarized below and
17 shown in **Figure 4**:

- 18
- 19 1. Basin 1 - Old Lake. This tidal basin is located near the historic backwater lake area. The
20 area is a natural topographic drainage swale managed for cattle pasture. Since this basin
21 is isolated from other tidal basins, it would have its own dead-end branching (dendritic)
22 tidal channel network. The tidal source for its tidal channel network would be a channel
23 that crosses the existing primary north-south irrigation ditch before connecting to the
24 main tidal trunk channel in Network 2. To promote tidal circulation in this basin, some
25 low internal berms and roads may need to be graded.
26
 - 27 2. Basin 2 – Island. The Island is an area of historic tidal marsh that is currently managed as
28 summer irrigated cattle pasture and winter open water and emergent marsh (**Figure 3**).
29 The tidal source for this network would be a channel excavated to the junction of
30 Liberty Cut and the Stair Step. The northern portion of the Island already experiences
31 limited muted tidal connectivity with the Stair Step through a broken tide gate at its
32 northeast corner. This northern half of the Island would be restored to an intertidal
33 pond by retaining most of the existing east-west berm and allowing higher tides to
34 connect with it.
35
 - 36 3. Basin 3 – Duck Pond. The Duck Pond is another area of historic tidal marsh that is also
37 managed as summer irrigated cattle pasture and winter irrigated open water and

LOWER YOLO RESTORATION PROJECT
Notice of Preparation/Initial Study

1 emergent marsh (**Figure 3**). The primary tidal source for this network would be a
2 channel leading to the Stair Step. This basin also would be connected indirectly to the
3 Toe Drain through a tidal channel network that flows through Basins 4 and 5. Unlike the
4 dendritic channel networks in Basins 1 and 2, this network would be a flow-through
5 network. The primary goals of this flow-through design are to (1) maximize the
6 efficiency of tidal transport of primary productivity from the marsh plain to open water
7 habitats, and (2) to provide a fish movement corridor with more complex habitats
8 relative to the Stair-Step and the Toe Drain.

- 9
- 10 4. Basin 4 – Northeast Field. Basin 4 is an area of historic tidal marsh managed as upland
11 pasture. The tidal sources for this network would be tidal channels connected to tidal
12 sources in Basins 3 and 5.
- 13
- 14 5. Basin 5 – Toe Drain. Basin 5 occupies an area of historic tidal marsh that is currently
15 managed primarily for duck hunting and grazing. It would have a flow-through tidal
16 channel network extending from the Toe Drain south to the Basin 4.
- 17
- 18 6. Basin 6 – Southwest. A new 75-acre basin north of existing high marsh in the southwest
19 corner of the property would connect to Stair Step through a new tidal channel.

20

21 Locations where constructed tidal channels connect to the existing tidal waterways would be
22 sited to avoid wherever possible, and minimize if avoidance is not possible, any areas
23 supporting rare plants along the Stair Step or Toe Drain.

24

25 The main existing central irrigation ditch, extending directly north of Liberty Cut, would be
26 mostly undisturbed to avoid/minimize impacts to rare plants. The only disturbances to this
27 ditch would be (1) in locations where new tidal channels would cross, and (2) in locations where
28 infrastructure such as ditch blocks and tide gates would be installed to manage drainage from
29 pastures that would continue to be irrigated. The locations of these infrastructure elements are
30 discussed further below under “Water Management Changes.”

31 ***A.8.3.4 Tidal Channel Geometry***

32 The dimensions of the constructed tidal channels would vary according to flow capacity needs.
33 Channels would be excavated to depths approximately 2 to 4 feet below local mean lower low
34 water (MLLW) to minimize colonization of the channel beds by tule. Channel geometries are
35 also sized to promote peak tidal flow velocities throughout the network of approximately 3 feet
36 per second, in order to actively discourage colonization and establishment by the invasive
37 submerged aquatic plant, Brazilian waterweed (*Egeria densa*). Channels would be constructed

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1 with 2:1 (width:height) side slopes, resulting in trapezoidal cross-sections. In some locations,
2 one channel bank may be sloped more gently to provide some littoral habitat well suited to
3 native fish species; such slopes would be located on the inside of channel bends, consistent
4 with natural geomorphology of stream channels. The tidal channels would be sinuous to (a)
5 approximate what local natural tidal channel morphology may have looked liked in natural
6 Delta freshwater tidal marsh before, and (b) maintain a maximum distance to a channel from
7 any location on the marsh plain so as to facilitate connectivity and exchange of productivity
8 between marsh plain and open water habitats. Each new basin would be gently graded to drain
9 into tidal channels and avoid the development of stagnant backwater areas.

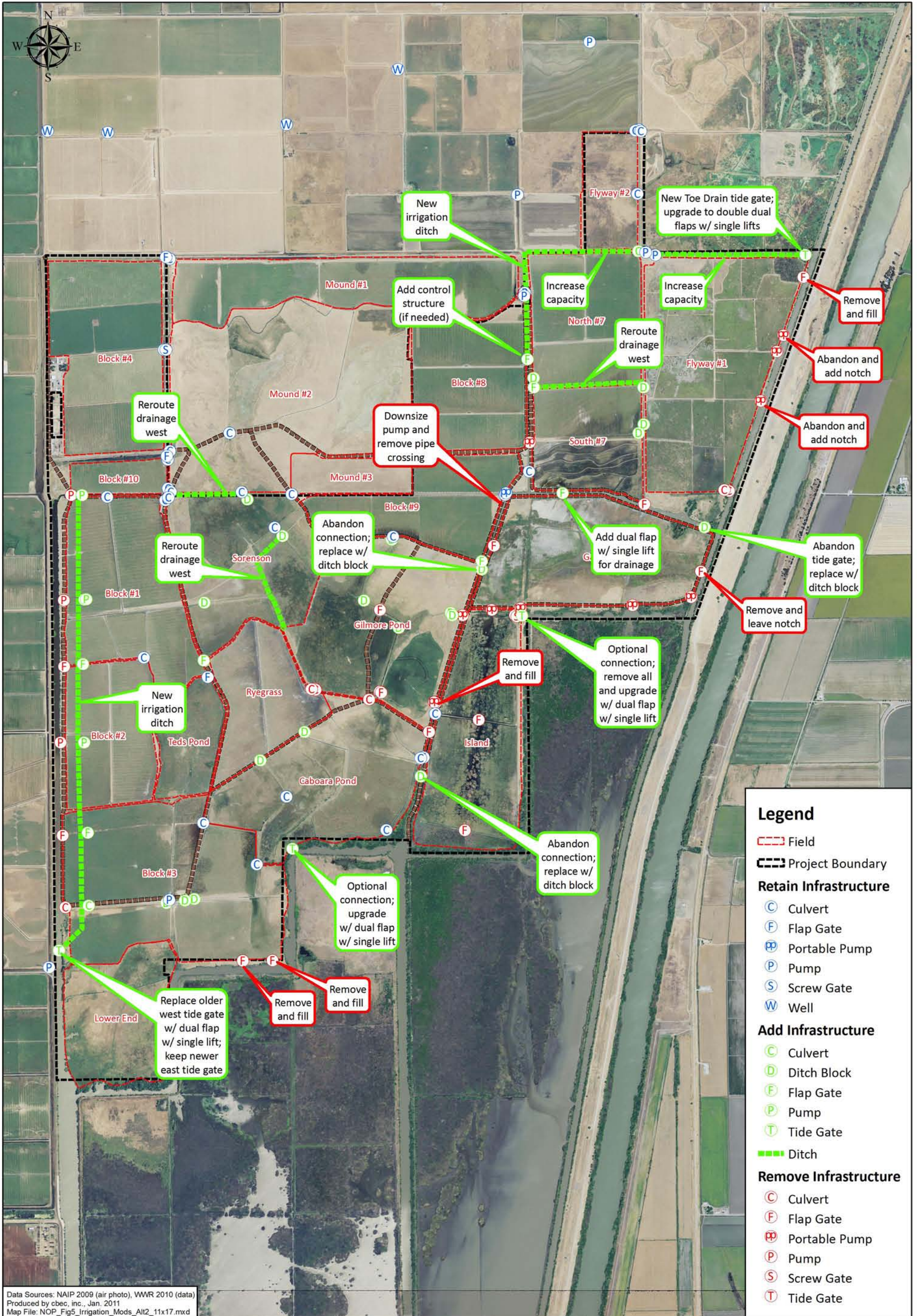
10 ***A.8.3.5 Grading of Internal Berms and Roads***

11 The project site has numerous ranch roads and internal berms, which if left untouched would
12 impede tidal circulation in restored tidal basins. In order to ensure tidal circulation, many of
13 these berms and roads within the restoration footprint would be graded to be flush with the
14 grade of the adjacent fields. This would result in the excavation of approximately 6,000 cubic
15 yards of material.

16 ***A.8.3.6 Modifications to Water Control Infrastructure***

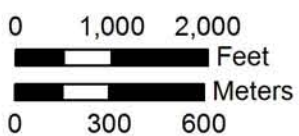
17 Currently, a variety of tide gates, flap gates, and other structures moderate the extent to which
18 water can enter (irrigate) and leave (drain) the site. The project would include the installation,
19 rehabilitation, and removal of several water control structures as well as the rerouting of some
20 irrigation and drainage ditches. Strategically located ditch blocks would minimize the extent of
21 large linear irrigation ditches within the tidal basins from becoming part of each basin's
22 dendritic tidal channel network. **Figure 5** displays the current and proposed locations of these
23 changes. All changes in water control infrastructure would be designed to maintain irrigation
24 and drainage capabilities for all adjacent properties that rely on the current infrastructure on
25 the project site for their agricultural operations.

26



Data Sources: NAIP 2009 (air photo), WWR 2010 (data)
 Produced by cbec, inc., Jan. 2011
 Map File: NOP_Fig5_Irrigation_Mods_Alt2_11x17.mxd

1:24,000; 1 inch = 2,000 feet at B-size



CHANGES TO IRRIGATION AND DRAINAGE INFRASTRUCTURE

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

January 2011

Project No. 1150

Figure 5

LOWER YOLO RESTORATION PROJECT
Notice of Preparation/Initial Study

A.8.3.7 Yolo Bypass Levee Toe Berm and Relocated Irrigation and Drainage Ditch

The proposed project soils reuse component would reuse all excavated materials to construct a toe berm to buttress the portion of the West Yolo Bypass levee adjacent to the site. The integrity of this levee is currently threatened by erosion along its eastern slope when the Yolo Bypass is inundated in the winter; wind-waves across the flooded lands along with eddies generated on the leeward side of the restricted height levee around the ranch buildings each create erosive forces on the levee slope that require costly and fairly regular maintenance.

Under this materials reuse option, the proposed project would transport and place excavated soils onto the eastern side of the levee and final grading of that placed soil (Reclamation District 2068 (RD 2068) would conduct final grading). The toe berm would be constructed with a variable side slope between 25:1 and 35:1; for modeling flood conveyance effects, a constant slope of 30:1 was assumed. The toe berm would extend up to the levee crown. The existing borrow ditch, which serves irrigation and drainage purposes, would be filled and a new, slightly sinuous irrigation and drainage channel would be constructed east of the berm toe. All the existing irrigation pumps that draw from the existing irrigation channel would be relocated a short distance east, in order to maintain their function of providing irrigation water off of this new channel. These more gradual slopes provide greater effectiveness in dissipating erosive energy, thereby enhancing flood protection. This toe berm also would be constructed in a manner that provides improved ecosystem benefits relative to a standard linear levee slope. The existing tide gates that allow intake of irrigation water from Shag Slough would be retained at this location.

A.8.3.8 Other Soils Reuse Options To Be Evaluated in EIR

Additional on- and off-site options would be considered in the EIR for reuse of excavated materials from the project, as summarized below. All options are considered in this Notice of Preparation/Initial Study (NOP/IS), including some that involve reuse of the materials in constructing other projects. For some of the off-site disposal options, the CEQA analysis of the receiving projects addresses the potential impacts of material re-use once the materials have been delivered to those sites; for other off-site options, potential impacts of material re-use would be analyzed in the EIR.

Permanent On-Site Stockpile Option

Under this option, any excavated soil not used for other purposes (toe berm above or off-site reuse described below) would be placed as a permanent stockpile on the fields within the restricted height levee in the northwest portion of the property and also south of the restricted height levee in its 'flow' shadow. The intent of these placement locations would be to have no adverse effect on Yolo Bypass flood flow conveyance.

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Bacon Island Interior Toe Berm Option

Under this option, any excavated soil not used for the toe berm or permanently stockpiled on the site (the proposed project and stockpile option above) would be loaded into barges, transported across the Delta to Bacon Island, and offloaded onto the eastern interior side of Bacon Island along Middle River. The local reclamation district would then place this material on the interior of the levee to construct a toe berm for the purpose of improving the stability of this levee.

Dutch Slough Tidal Marsh Restoration Project Option

Under this option, any excavated soil not used for the toe berm or permanently stockpiled on the site (the proposed project and stockpile option above) would be loaded into barges, transported across the Delta to Dutch Slough, and offloaded onto the interior of the Dutch Slough project site. The Department of Water Resources would then transport and grade that material as needed for that wetland restoration project. The Final Dutch Slough EIR already has evaluated the environmental consequences at the receiving site of placing up to 1.2 million cubic yards of imported soils for its wetland restoration (DWR 2010).

**A.8.4 Construction Equipment, Phasing, Sequencing, Methodologies,
and Personnel**

A.8.4.1 Construction Activities

Hazardous Materials Management

Prior to the start of construction activities, all remedial activities as specified in the Phase 1 Environmental Site Assessments for the Yolo Ranch property (WKA 2008a) and the Yolo Flyway Farms property (WKA 2007a) would be conducted as appropriate. These items are summarized in Section VIII, Hazards and Hazardous Materials, of this NOP/IS.

Hydrologic Management

Prior to the commencement of construction activities, several alterations of the current hydrologic management of the project site would be made to ensure that the soils are dry enough to work in. These activities would include:

- Repair or replace broken water control structures along adjacent tidal water bodies including installing additional flap gates to allow effective site drainage
- Cessation of irrigation in all project work areas
- Construction of temporary low berms in areas where high tides may inundate work areas

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Clearing and Grubbing

Clearing and grubbing consists of removing all structures and vegetation prior to commencement of earthmoving activities and would include the following activities:

- Trim potential nesting vegetation in the spring prior to construction to prevent nesting activity in the work area
- Clear work areas of vegetation
- Remove/relocate/abandon in place existing utility infrastructure

Construct Access Roads

Equipment access and excavated material transport would occur primarily along existing roads on the project site and adjacent Mound Farms. Two new road alignments may be constructed in the western area of the project site to facilitate material transport to placement locations along the western Bypass Levee. The final decision on which new and existing road alignments would be used would be made by the contractor and design team prior to construction. Roads would be improved/created to construction standards by widening to a minimum of 12 feet and adding sufficient material (dry, excavated soils from restoration areas) to support heavy equipment use. Filter fabric may also be used in problematic (soft or damp) soil areas to provide a sturdy base to build the roads upon. Turnouts (minimum width of 24 feet) would be constructed every 300 to 500 feet along the roads to permit two-way vehicle traffic. If desired by the landowner, all roads would be returned to their approximate original configuration following completion of construction activities. The EIR will examine the worst case scenario of the various options for impacts relating to constructing access roads.

It may also be necessary to construct temporary roads within the footprints of restoration (i.e., grading) areas. These roads would be built to similar specifications as described above for transport roads and would be removed prior to project completion. All actively used access roads would be watered twice daily for dust control.

Wetland Restoration Grading and Excavation

Once site preparation has been completed, grading and excavation activities would begin. As discussed in the project description, restoration activities would involve (1) excavating large tidal channels through existing tidal areas and (2) grading areas currently at elevations above the tides to intertidal elevations and constructing channel networks within these newly created basins. Excavated material would be loaded into dump trucks that would transport it to local stockpile locations (within the work area) situated along the major site access roads. Loaders

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1 would transfer the stockpiled material into large dump trucks, which would transport the
2 material to the disposal site. If soil conditions are suitable (firm and dry enough), marsh plain
3 grading may be accomplished using scrapers. This method would eliminate the need to transfer
4 material into dump trucks as the scrapers themselves are used to cut and transport material to
5 disposal sites. Selection of excavation and dump trucks versus scrapers would be made by the
6 contractor and may be different for marsh plain excavation and tidal channel excavation.
7 Whether the channel network or marsh plains are excavated and graded first would be
8 determined by the contractor and design team based on field conditions. As described in the
9 section on access road preparation, above, some of this excavated material would first be used
10 to improve/construct access roads throughout the project site. This material would be dumped
11 along the road alignment and graded into place. The EIR will examine the worst case scenario of
12 the various options for impacts relating to grading and excavation activities.

13
14 Restored areas would not be breached to tidal sources until all grading and excavation of marsh
15 plains and tidal channels would be complete. This strategy would ensure that the work areas
16 would remain as dry as possible and would reduce the transport of silt and construction
17 debris/contaminants into adjacent waterways.

18
19 **Proposed Project Soils Reuse for West Yolo Bypass Levee Toe Berm**
20 Material from the restoration project would be transported to the toe berm construction site
21 where it would be dumped in place, spread, and compacted. Following construction, the newly
22 completed toe berm would be stabilized with appropriate erosion control measures to prevent
23 damage from Yolo Bypass flood flows.

24
25 The new irrigation and drainage ditch would be constructed to the east of the new toe berm.
26 Material from this cut would be transported to the toe berm construction site where it would
27 be dumped in place, spread, and compacted.

28
29 In the event that toe berm construction cannot take place concurrent with the wetland
30 restoration activities, all soils would be stockpiled at the ranch compound at the northern end
31 of the property. The stockpiling would consist of creating elevated pads on the fields within the
32 restricted height levee. The material would be transported to the interior of the levee and
33 dumped where it would be graded into place and compacted (if necessary). Following
34 construction, the newly constructed stockpiles would be stabilized with appropriate erosion
35 control measures to prevent damage from Yolo Bypass flood flows.

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37

1 **Off-Site Material Re-Use Options**

2 Under these options, material from the restoration project would be transported to a staging
3 area near the barge loading location along the Toe Drain. The material would then be loaded
4 onto the barges either by front-end loader or conveyor. Once loaded, the barges would be
5 transported to the final end-use location where the material would be offloaded. See Section
6 A.8.3.8 above for identified off-site materials re-use options.

7 ***A.8.4.2 Construction Phasing***

8 Construction of the proposed project would occur during the dry season over one or two years
9 depending on site conditions, soils reuse readiness, and construction-related air emissions.
10 Construction on the Yolo Bypass would be limited to the late spring-summer-mid fall period in
11 order that construction activities do not interfere with Yolo Bypass flood conveyance. Year-one
12 construction would be anticipated to take place in 2012 and, if needed, year two construction
13 would take place in 2013. This phasing would ensure that no partially completed restoration
14 elements exist at the end of year one that would require extensive stabilization during the
15 winter flood period. The division of restoration activities between year one and year two would
16 be determined during final engineering design. For example, year one work may include
17 constructing the restoration elements in Network 2 and Network 6. Network 6 would be a
18 stand-alone restoration element. Under this example, Network 2 would then be expanded in
19 year two to complete Network 1. Year one construction would serve as pilot projects. **Figure 4**
20 displays the various networks with the proposed project.

21
22 At the completion of phase 1 in the fall of 2012, all temporary soil stockpiles and structures
23 (e.g., ditch blocks and water-filled bladders at major tidal connection points, office trailers,
24 storage containers, etc.) would be removed from the Bypass prior to the onset of the winter
25 flood season. The partially completed western Bypass levee toe berm and any stockpiles within
26 the restricted height levee would be stabilized with appropriate erosion control measures to
27 prevent damage from Yolo Bypass flood flows.

28 ***A.8.4.3 Construction Equipment***

29 The construction of the restoration elements in this project would require many different types
30 of equipment. Conditions in the field at the time of construction would influence the type of
31 equipment that would be best suited for the work. The list of equipment presented below
32 includes the entire suite of potential machinery that may be used:

33

- 34 • Tracked long-reach and standard-reach excavators (4 each)
- 35 • Low ground pressure tracked dump trucks (4 each)
- 36 • Wheeled 20 cy or 40 cy scrapers (4 each)*

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- 1 • Tracked standard and low ground pressure bulldozers (4 each)
- 2 • Front end loaders (2 each)
- 3 • Wheeled articulated 30-35 ton dump trucks (4 each)
- 4 • Double and/or single drum pad-foot compactors (2 each)
- 5 • Water trucks (3 each)
- 6 • Conveyor (for barge loading only)

7

8 **Note: scrapers are alternate to excavator/articulated dump truck combo for excavation*

9

10 All equipment would be delivered to the project site by flatbed truck and access the work areas
11 via existing roads on the project site. Equipment staging areas would be located in upland areas
12 outside of sensitive habitats (e.g., wetlands). The location of all staging areas would be
13 determined by the contractor and design team at the time of construction based on field
14 conditions. These areas would be clearly demarcated in the field and erosion control structures
15 (e.g., weed free, rice straw wattles; silt fences) would be installed around them in accordance
16 with the project stormwater pollution prevention plan (SWPPP) to prevent the transport of
17 sediments and/or construction contaminants into surrounding areas. All refueling,
18 maintenance, and storage of equipment when not in use would occur within these areas. Lights
19 would be installed in the staging areas to allow maintenance and refueling to occur during off-
20 hours.

21

22 A construction management center would be set up in a central location, to be determined by
23 the contractor and design team. This center would consist of one or two office trailers, portable
24 toilets, and one or two storage containers. If it is not possible to hook into existing electrical
25 lines on the site, power would be provided by generators.

26 ***A.8.4.4 Construction Personnel***

27 Personnel on site would include a project manager, assistant manager, site superintendent,
28 safety officer, QA/QC officer, multiple foremen, equipment operators, laborers, and
29 environmental monitors. Multiple management duties may be filled by one position (i.e., safety
30 and QA/QC). Two to three foremen would be required depending upon the number of
31 independent operations occurring at one time. Assuming a two-year construction schedule,
32 field staffing in year one would consist of approximately 15-20 personnel, and in year two
33 would consist of approximately 25-30 personnel. Depending upon permit requirements and
34 allowable hours of operation, shift work and/or weekend work may take place. Dewatering
35 operations may also require extended work hours/days. The maximum daily duration of work

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1 would be dictated by length of daylight (construction work would be limited to daylight hours)
2 and would not exceed 15 hours.

3
4 Staffing, either under the umbrella of the general contractor or as independent consultants,
5 would include geotechnical engineers for sampling/compaction testing, land surveyors, and
6 various environmental monitors.

7 **A.8.5 Long-Term Operations and Maintenance**

8 A long-term operations and maintenance plan for the site will be developed and assessed
9 within the EIR and will include the following information:

10

- 11 • General management of agricultural activities outside of the restoration footprint
- 12 • Maintenance and management of cattle exclusionary devices (i.e., fencing) around
13 restored areas
- 14 • Maintenance and management of water control structures
- 15 • Control of invasive vegetation within both restored and remaining upland areas
16 removed from cattle grazing uses
- 17 • Physical, biological, and water quality monitoring plan for the restoration project
18 implemented to determine proposed project outcomes relative to meeting project
19 goals and to conduct associated adaptive management science activities. These
20 monitoring activities would be in addition to mitigation monitoring elements to be
21 established under the Mitigation Monitoring and Report Plan.

22 **A.9 Setting and Surrounding Land Uses**

23 The project site is located within the Yolo Bypass, a leveed, 59,000-acre floodplain on the west
24 side of the lower Sacramento River in Yolo County. Land use within the Yolo Bypass is managed
25 to facilitate flood flow conveyance. The Bypass consists of the state-owned Yolo Wildlife Area
26 (16,700 acres) and mainly privately owned agricultural lands, all of which are subject to flood
27 flow conveyance easements. The Bypass is predominantly used for annual agricultural crops
28 and the Yolo Wildlife Area is managed for emergent wetland vegetation. Riparian floodplains
29 are not a significant component of the Yolo Bypass.

30

31 Agricultural lands bound the project site in all directions except the immediate south, which is
32 bounded by open waters of the Sacramento-San Joaquin River Delta (**Figure 2**). To the north are
33 agricultural lands within the Yolo Bypass, used for a mixture of cattle grazing and crop
34 production. West of the Yolo Bypass are extensive agricultural lands of Solano County. East of
35 the Yolo Bypass and across the Sacramento Deep Water Shipping Channel is the Clarksburg

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1 Agricultural District. To the south is the tidal Stair Step channel then the flooded islands of
2 Liberty Island and Little Holland Tract, and further south are more agricultural lands in Solano
3 and Sacramento counties.

4

1 ***A.10 Other Public Agencies whose Approval May Be Required***

2 Permits or other authorizations or approvals for the proposed project may be required by the
3 following agencies

- 4 • Central Valley Flood Protection Board
- 5 • U.S. Army Corps of Engineers
- 6 • U.S. Fish and Wildlife Service
- 7 • National Marine Fisheries Service
- 8 • State Office of Historic Preservation
- 9 • Central Valley Regional Water Quality Control Board
- 10 • State Water Resources Control Board
- 11 • California Department of Fish and Game
- 12 • Yolo County
- 13 • Department of Water Resources
- 14 • Westlands Water District
- 15 • Reclamation District 2068
- 16 • Reclamation District 2093

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1 **B. Environmental Factors Potentially Affected**

<input type="checkbox"/> Aesthetics	<input checked="" type="checkbox"/> Agriculture and Forest Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology/Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards/Hazardous Materials	<input checked="" type="checkbox"/> Hydrology/Water Quality
<input checked="" type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise
<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services	<input checked="" type="checkbox"/> Recreation
<input checked="" type="checkbox"/> Transportation/Traffic	<input checked="" type="checkbox"/> Utilities/Service Systems	<input checked="" type="checkbox"/> Mandatory findings of Significance


2

1 **C. Lead Agency Determination**

2 On the basis of this initial evaluation:

- 3
- 4 I find that the proposed project COULD NOT have a significant effect on the
5 environment, and a **NEGATIVE DECLARATION** will be prepared.
- 6
- 7 I find that although the proposed project could have a significant effect on the
8 environment, there will not be a significant effect in this case because revisions in the
9 project have been made by or agreed to by the project proponent. A **MITIGATED**
10 **NEGATIVE DECLARATION** will be prepared.
- 11
- 12 I find that the proposed project MAY have a significant effect on the environment, and
13 an **ENVIRONMENTAL IMPACT REPORT** is required.
- 14
- 15 I find that the proposed project MAY have a “potentially significant impact” or
16 “potentially significant unless mitigated” impact on the environment, but at least one
17 effect 1) has been adequately analyzed in an earlier document pursuant to applicable
18 legal standards, and 2) has been addressed by mitigation measures based on the earlier
19 analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is
20 required, but it must analyze only the effects that remain to be addressed.
- 21
- 22 I find that although the proposed project could have a significant effect on the
23 environment, because all potentially significant effects (a) have been analyzed
24 adequately in an **earlier EIR or NEGATIVE DECLARATION** pursuant to applicable
25 standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or
26 **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed
27 upon the proposed project, nothing further is required.


Signature

Byron Buck

Name

2/24/11
Date
Executive Director,
State and Federal Contractors
Water Agency
Title

28

1 **D. Evaluation of Environmental Effects**

2 **I Aesthetics**

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

3

4 **I.1 Background**

5 Views of the project site include farmed lands, open space, sloughs, levees, unpaved roads, a
6 ranch complex, electrical transmission towers, transmission lines, ranch equipment, pipelines,
7 pumping facilities, and gas wells. The primary views are of hayfields, pasture and ruderal
8 vegetation. Viewers of the site also see freshwater and brackish marshes, levees, open water
9 channels, seasonal ponds, riparian vegetation, blackberry, and willows.

10

11 The northwestern part of the site is visible from the southern end of Levee Road (County Road
12 5190C). The northern edge of portions of the site is visible from Delhi Road. Small areas of the
13 western part of the site also may be visible from Liberty Island Road. Other parts of the site are
14 visible from levee-top roadways adjacent to the site. The site is not visible from the Sacramento
15 Deepwater Channel because views are blocked by the levees bordering the channel.

16

17 According to the Yolo County 2030 Countywide General Plan Land Use and Community
18 Character Element (County of Yolo 2009), there are no County designated scenic highways on
19 the project area.

20

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1 The Yolo County 2030 Countywide General Plan Land Use and Community Character Element
2 (County of Yolo 2009), contains a number of goals and policies pertaining to visual quality and
3 aesthetic resources. Relevant goals and policies include:

4 *GOAL CC-1 Preservation of Rural Character. Ensure that the rural character*
5 *of the County is protected and enhanced, including the unique*
6 *and distinct character of the unincorporated communities.*

- 7 • Policy CC-1.2: Preserve and enhance the rural landscape as an important scenic
8 feature of the County.
- 9 • Policy CC-1.4: Identify and preserve, where possible, landmarks and icons that
10 contribute to the identity and character of the rural areas.
- 11 • Policy CC-1.5: Significant site features, such as trees, water-courses, rock
12 outcroppings, historic structures and scenic views shall be used to guide site
13 planning and design in new development. Where possible these features shall
14 become focal points of the development.
- 15 • Policy CC-1.16: The following features shall be protected and preserved along
16 designated scenic roadways and routes, except where there are health and
17 safety concerns.
 - 18 ○ Trees and other natural or unique vegetation
 - 19 ○ Landforms and natural or unique features
 - 20 ○ Views and vistas
 - 21 ○ Historic structures (where feasible), including buildings, bridges and signs
- 22 • Policy CC-1.17: Existing trees and vegetation and natural landforms along scenic
23 roadways and routes shall be retained to the greatest feasible extent.
24 Landscaping shall be required to enhance scenic qualities and/o screen unsightly
25 views and shall emphasize the use of native plant and habitat restoration to the
26 extent possible. Removal of trees particularly those with scenic and/or historic
27 value, shall be generally prohibited along the roadway or route.

28 **I.2 Discussion of Impacts**

29 **a) Have a substantial adverse effect on a scenic vista?**

30 The site is not prominent in any designated “scenic vistas”. The southwestern corner of the
31 property is visible from Liberty Island Road where it runs atop the crown of the western Yolo
32 Bypass levee. The southern and eastern extents of the property are visible from boats
33 navigating the Stair Step and Toe Drain. The property is otherwise not visible from nearby
34 public rights of way. As described above, it is part of a larger agricultural landscape, portions of
35 which are visible from surrounding roadways and waterways. The restoration of the site would
36 transform the visual character of the restored parts of the site from predominantly open space

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1 views of hayfields, pasture and ruderal vegetation to natural open space/open water with
2 restored wetlands and wildlife habitat. These changes in site appearance would be visible
3 primarily from within the site itself. These changes would not be adverse, as the “natural”
4 looking landscape of channels and marshes would be visually compatible with the remaining
5 onsite agricultural uses, as well as surrounding sloughs, open water, and agricultural lands. The
6 impact would therefore be ***less than significant***.

7

8 **b) Substantially damage scenic resources, including but not limited to, trees, rock**
9 **outcroppings, and historic buildings within a state scenic highway?**

10 The site is not visible from any designated Scenic Highway and therefore would not affect views
11 from any such route. No visually prominent trees or rock outcrops would be removed, resulting
12 in there being ***no impact***.

13

14 **c) Substantially degrade the existing visual character or quality of the site and its**
15 **surroundings?**

16 During construction, grading and earth-moving activities would result in substantial areas of
17 bare soil on the site. This would result in a temporary change in the site’s visual quality, but
18 would be visually compatible with the existing appearance of agricultural activities. Stockpiled
19 soil would be covered and would have an appearance similar to soil stockpiles on agricultural
20 sites. These soils would be minimally visible from off-site locations (roadways). The discussion
21 of item a), above addresses potential long-term impacts to the project site’s visual quality. The
22 impact would therefore be ***less than significant***.

23

24 **d) Create a new source of substantial light or glare which would adversely affect day or**
25 **nighttime views in the area?**

26 Construction work would be limited to the late spring and summer months, mostly during
27 daylight savings time, in order to avoid working in the floodway during the rainy season.
28 Construction would occur only during the daylight hours. The project would have lights only in
29 the staging areas where equipment maintenance and refueling could occur during non-work
30 hours. This lighting would be similar to existing ranch lighting. In addition, the site is low-lying,
31 surrounded by levees, and distant from other residences. Therefore the proposed staging area
32 lighting would have ***less-than-significant*** impacts.

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II Agriculture and Forest Resources

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	X			
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	X			

II.1 Background

Site Agricultural Land Uses

The project site is entirely in agricultural land uses within the Yolo Bypass (**Figure 3**). Most of the site is used seasonally from spring to fall for irrigated cattle pasture, at an average density of about 1 head/acre. A portion of the Yolo Ranch parcel is also used for hay production. Winter waterfowl management takes place on much of Yolo Flyway Farms and a moderate portion of Yolo Ranch.

Zoning and General Plan Designation

The Yolo County General Plan designates the project site as Agriculture. This designation allows for agricultural uses. Nearly all the project site is currently zoned “A-P” (Agricultural Preserve); small areas adjacent to the sloughs are zoned “A-1” (Agriculture) (County of Yolo 2008).

According to the County, an agricultural land use designation is applied to lands best suited for agriculture and to preserve them from the encroachment of nonagricultural uses (County of Yolo 2009).

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General Plan Agricultural Policies

The Yolo County General Plan (2009) includes a number of policies with respect to agricultural resources. These include:

- Open Space/Conservation Element Policies encouraging buffers for agricultural lands, preservation of high quality agricultural soils, and directing development away from productive agricultural areas.
- Agriculture Element policies promoting the use of Agricultural Conservation Easements, actively maintaining the Williamson Act Land Conservation (Agricultural Preserve) program, actively promoting and maintaining the Farmland Security Zone (FSZ) program.

Right to Farm Ordinance

No agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained on agricultural lands for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations in the same locality, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after the same has been in operation for more than three years if it was not a nuisance at the time it began. General Plan Policies AI-5: Support the maintenance of a Right to Farm Ordinance.

Williamson Act

Yolo County currently has almost 450,000 acres enrolled in Williamson Act contracts. Of that, 61,321 acres are classified as Prime (within 3 miles of city limits). A total of 162,315 acres of non-prime lands are under contract. The project site is under Williamson Act contracts. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space (California Department of Conservation 2009).

Prime, Unique, or Statewide Importance Farmlands

The California Department of Conservation Division of Land Resource Protection has a Farmland Mapping and Monitoring Program (FMMP) that has developed Important Farmland Maps for the state. The FMMP is a classification system that combines technical soil ratings and current land use as the basis for the Important Farmland Maps. The Important Farmland Maps identify prime farmland, farmland of statewide importance, unique farmland, farmland of local

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1 importance, grazing land, urban and built-up land, other land and water.

2

3 **Farmlands on the Project Site**

4 Farmlands on the site are classified by the California Department of Conservation as Grazing
5 (1167 acres), Unique (1870 acres), and Other (837 acres) (**Figure 6**). There are no mapped Prime
6 Farmlands or Farmlands of Statewide Importance on the project site. Site farmland types are
7 described below:

8

9 **Unique Farmland.** Unique farmland is farmland of lesser quality soils used for the production of
10 the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated
11 orchards or vineyards as found in some climatic zones in California. Land must have been
12 cropped at some time during the four years prior to the mapping date.





13

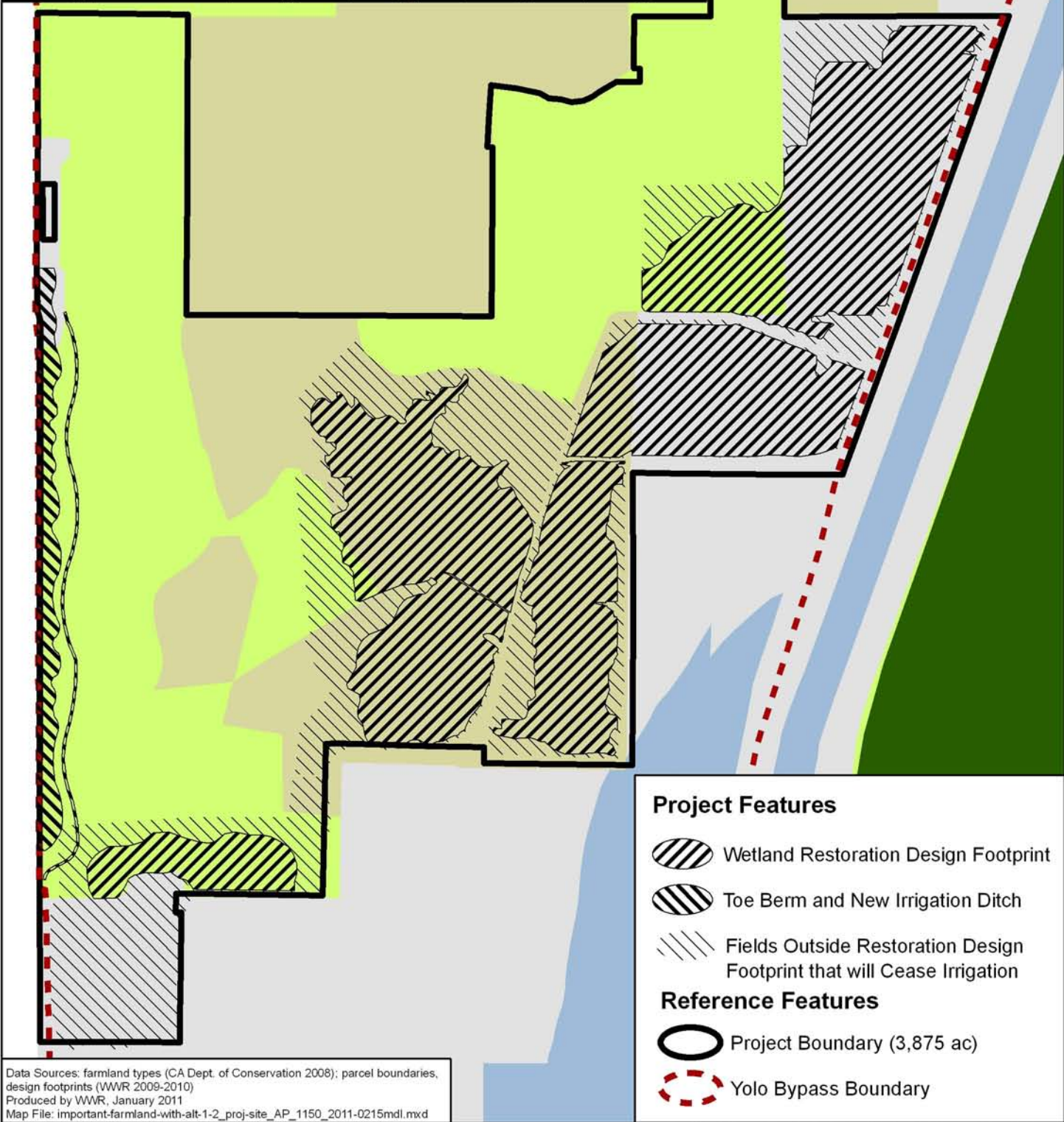
14 **Grazing Land.** This category is for land on which the existing vegetation is suited to the grazing
15 of livestock. This category was developed in cooperation with the California Cattlemen's
16 Association, University of California Cooperative Extension, and other groups interested in the
17 extent of grazing activities.

18

19 **Other Land.** "Other land" is land not included in any other mapping category. Common
20 examples include low density rural developments; brush, timber, wetland, and riparian areas
21 not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip
22 mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land
23 surrounded on all sides by urban development and greater than 40 acres is mapped as Other
24 Land. (California Department of Conservation 2009).




25

Farmland Type Within Project Boundary	Existing Acreage (ac)	Wetland Restoration Footprint (ac)	Toe Berm and New Irrigation Ditch (ac)	Additional Acreage Ceasing Irrigation (ac)
 Unique Farmland	1870	164	105	152
 Grazing Land	1167	537	0	277
 Other Land	837	456	15	227
 Water	1	0	0	0
Total	3875	1158	120	655





Data Sources: farmland types (CA Dept. of Conservation 2008); parcel boundaries, design footprints (WWR 2009-2010)
 Produced by WWR, January 2011
 Map File: important-farmland-with-alt-1-2_proj-site_AP_1150_2011-0215mxd

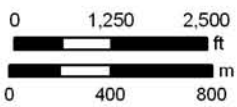
Project Features

-  Wetland Restoration Design Footprint
-  Toe Berm and New Irrigation Ditch
-  Fields Outside Restoration Design Footprint that will Cease Irrigation

Reference Features

-  Project Boundary (3,875 ac)
-  Yolo Bypass Boundary

1:30,000 (1" = 2,500' at letter layout)



RESTORATION DESIGN OVERLAID ONTO IMPORTANT FARMLAND TYPE

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

1 **II.2 Discussion of Impacts**

2 **a) Would the project Convert Prime Farmland, Unique Farmland, or Farmland of Statewide**
3 **Importance (Farmland), as shown on the maps prepared pursuant to the Farmland**
4 **Mapping and Monitoring Program of the California Resources Agency, to non-agricultural**
5 **use?**

6 As can be seen on **Figure 6**, Farmland Types, most of the farmlands in the restoration footprint
7 are Grazing and Other lands. The project would result in the permanent conversion of
8 approximately 270 acres of Unique Farmland on the site to wetlands. It also would result in the
9 conversion to wetlands of approximately 540 acres of Grazing lands and 470 acres of Other
10 lands. An additional 650 acres outside the wetland restoration footprint would have irrigation
11 discontinued with restricted or no cattle grazing following proposed project implementation.
12 The remaining approximately 1,950 acres would be retained in agricultural use. It would not
13 result in the conversion of any Prime Farmlands or Farmlands of Statewide Importance. This
14 loss of unique agricultural lands would be a **potentially significant impact**, which will be
15 addressed in the EIR. In addition, the project’s conversion of Unique Farmlands in Yolo County
16 plus other proposed habitat restoration projects located in Solano County would contribute to
17 the **potentially significant cumulative** conversion of these farmlands that will be addressed in
18 the EIR.

19
20 **b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act**
21 **contract?**

22 As described above, the project site property is subject to Williamson Act contracts. The
23 contracts state, among other things, that the property “shall not be used for any purpose other
24 than agricultural use and those uses determined to be compatible with the agricultural use of
25 the land within this preserve and subject to contract”. In addition, subject to certain conditions,
26 the Williamson Act allows opens space uses that include those proposed as part of the project.
27 In addition to the conservation of agricultural land as an economic resource, the Land
28 Conservation Act also recognizes the importance of preserving land for open space purposes.
29 Specifically, Government Code Section 51201 defines “open space use” as including wildlife
30 habitat areas and managed wetland areas, and submerged areas. Although the project impact
31 would be **less than significant**, the project’s conformance with Williamson Act requirements
32 will be addressed in the EIR.

33
34 **c, d) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as**
35 **defined in Public Resources Code section 12220(g)) or timberland (as defined by Public**
36 **Resources Code section 4526? Would the project result in the loss of forest land or**
37 **conversion of forest land to non-forest use?**

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1 There are no forest lands (designated or otherwise) on the property therefore the project
2 would have ***no impact*** on those resources or their designations.

3

4 **e) Would the project involve other changes in the existing environment, which due to their**
5 **location or nature, could result in conversion of Farmland, to non-agricultural use?**

6 The project would result in certain non-wetland areas on the site being removed from
7 agricultural uses as buffers to keep cattle from adversely affecting the restored wetlands and
8 waterways. This acreage has been included in the discussions of Items a) and b), above, and
9 could be ***potentially significant***. Therefore this issue will be evaluated in the EIR.

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1 **III Air Quality**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	X			
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X

3

4 **III.1 Background**

5 The project site is within the Sacramento Valley Air Basin (SVAB), which encompasses 11
6 counties including all of Shasta, Tehama, Glenn, Colusa, Butte, Sutter, Yuba, Sacramento, and
7 Yolo counties, the westernmost portion of Placer County and the northeastern half of Solano
8 County. The site is within Yolo County, about 14 miles south of the City of Davis and 13 miles
9 north of Rio Vista. Where available, the significance threshold criteria established by the
10 applicable air quality management or air pollution control district may be relied upon to make
11 the following determinations.

12

13 **Air Quality Standards**

14 Air quality in the project area is determined primarily by the type and amount of contaminants
15 emitted into the atmosphere, the size and topography of the SVAB, and its meteorological
16 conditions. The SVAB in general has low mixing heights and light winds, which are conducive to
17 the accumulation of air pollutants, though the Delta is well known for its summer “Delta
18 breeze” the timing of which corresponds to the proposed project construction timing. Air

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1 quality is measured by comparing contaminant levels in ambient air samples to national and
2 State standards. These standards are set by the U.S. Environmental Protection Agency (EPA)
3 and California Air Resources Board (CARB) at levels determined to be protective of public health
4 and welfare, with an adequate margin of safety. National Ambient Air Quality Standards
5 (NAAQS), which describe acceptable conditions, were first authorized by the federal Clean Air
6 Act of 1963. California Ambient Air Quality Standards (CAAQS) were authorized by the State
7 Legislature in 1967. They describe adverse conditions; that is, pollution levels must be below
8 these standards before an air basin can attain the standard. Air quality is considered in
9 attainment if pollutant levels are below or equal to the standards continuously, exceeding them
10 no more than once each year. California standards are generally more stringent than national
11 standards.

12

13 **Existing Air Quality Conditions**

14 The Yolo-Solano Air Quality Management District (YSAQMD) operates a regional monitoring
15 network for ambient concentrations of criteria pollutants. Currently, the criteria pollutants of
16 most concern in the SVAB are ozone and particulate matter. The YSAQMD-operated monitoring
17 stations closest to the project site that represent the rural nature of the project area are the
18 Davis station at UC Davis, approximately 25 miles to the north, and the Woodland station on
19 Gibson Road, approximately 30 miles to the north.

20

21 The most recent three years of available data (i.e., 2007 through 2009) published by the
22 California Air Resources Board (CARB) for the Davis and Woodland air monitoring stations show
23 a moderate number of violations related to State and federal ozone standards, State and
24 federal particulate matter 10 microns in diameter or less (PM10) standards, and the federal
25 particulate matter 2.5 microns in diameter or less (PM2.5) standard. No other State or federal
26 air quality standards were exceeded during the three-year period.

27

28 The SVAB is currently designated “nonattainment” for State and national ozone standards, the
29 State PM10 standard, and federal PM2.5 standard. The SVAB is designated “attainment” or
30 “unclassified” with respect to the other ambient air quality standards.

31 **III.2 Discussion of Impacts**

32 **a) Would the project conflict with or obstruct implementation of the applicable air quality**
33 **plan?**

34 A project would be inconsistent with air quality plans if it would result in population and/or
35 employment growth that exceeds growth estimates included in the applicable air quality plan.
36 The proposed project would not result in population or employment growth, as it would only
37 restore, enhance, and preserve native fish habitat in the Sacramento Delta and would have

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1 short-term employment generation. In addition, no long-term operational emissions would
2 occur with implementation of the proposed project. Consequently, there would be **a less-than-**
3 **significant impact** to the applicable air quality plans. The project's short-term air quality
4 impacts and their compliance with applicable standards are addressed in Item b), below.

5
6 **b, c) Would the project violate any air quality standard or contribute substantially to an**
7 **existing or projected air quality violation? Would the project result in a cumulatively**
8 **considerable net increase of any criteria pollutant for which the project region is non-**
9 **attainment under an applicable federal or state ambient air quality standard (including**
10 **releasing emissions that exceed quantitative thresholds for ozone precursors)?**

11 The proposed project would result in short-term construction activities and associated
12 emissions; there would be no long-term operations-related activities or associated impacts.
13 Fugitive dust would be generated by loading and hauling vehicles on the site, as well as wind
14 erosion from stockpiles and re-entrainment of settled dust by vehicle and equipment
15 movement. Vehicular and site equipment exhaust emissions would also be generated by a
16 variety of diesel-powered equipment to be used at the project site. Transportation-generated
17 air quality emissions would be primarily associated with hauling of materials and employee
18 trips. Project-related air emissions would have a significant effect if they exceed YSAQMD
19 established significance thresholds designed to assess impacts on regional air quality.
20 YSAQMD's significance thresholds are 80 pounds per day of PM10 and 10 tons per year of ROG
21 or NOx. Preliminary modeling indicates that the impacts of PM10 and NOx associated with
22 project and cumulative construction activities would be **potentially significant**. Therefore
23 project emissions impacts will be evaluated in the EIR.

24
25 **d) Would the project expose sensitive receptors to substantial pollutant concentrations?**

26 The proposed project is located in a rural agricultural area within the Yolo Bypass and there are
27 no sensitive receptors (residences, schools, day care centers, hospitals, etc.) in the immediate
28 vicinity of the project. The proposed construction activities are not expected to generate
29 pollutant concentrations at a sufficient level to be noticed by any rural residences, particularly
30 given the agricultural nature of the project area. Since no future grading or development of the
31 site is proposed and the project area is rural/agricultural in nature, there would be **no impact** to
32 sensitive receptors.

33
34 **e) Would the project create objectionable odors affecting a substantial number of people?**

35 The proposed project includes construction activities that may result in odors associated with
36 vehicular emissions. Those odors would be minor and temporary, and would not affect any
37 receptors other than the workers themselves. Removal of a portion of the site from agricultural

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- 1 (cattle) uses would eliminate odors associated with cattle. No new long-term odors would be
- 2 generated by the proposed wetlands and channels, and no new receptors would be located on
- 3 the property. Therefore, the project would not generate any objectionable odors that would
- 4 affect a substantial number of people. ***No impact*** would occur.

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1 **IV Biological Resources**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	X			
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	X			
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	X			
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	X			
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X

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Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

1

2

IV.1 Background

3

IV.1.1 Description of Habitat Types

4

The project site consists of three general natural communities: wetland, aquatic, and upland habitats. Each of these is described below.

5

6

Vegetation Communities

8

Multiple vegetation communities were identified as occurring on the project site (Vollmar Consulting 2010a, b). These communities were identified using the *A Manual of California Vegetation* (Sawyer et al. 2009), and are described in **Table 1** and presented in **Figure 7**.

9

10

11

Vegetation communities on the property are generally associated with a specific habitat type. However, some vegetation communities (e.g., salt grass flats) on the property occur within more than one habitat (e.g., seasonal wetlands and upland grasslands). Overall, the vegetation communities on the property are often associated with seasonally flooded or perennially inundated areas and restrictive soil layers. In addition, much of the vegetation on site includes non-native or generalist species, indicative of ongoing disturbance.

12

13

Wetland Habitats

14

According to the 2010 wetland delineation reports (Vollmar Consulting and Wetlands and Water Resources 2010a, b), there are five wetland habitat types on the project site: seasonal wetlands (this category was divided into two sub-categories based on potential jurisdiction), vernal pools, perennial wetlands (this category was divided into two sub-categories based on hydrology: non-tidal, muted), tidal wetlands, and riparian floodplain wetlands. Seasonal wetlands are the most widespread wetland type delineated on the site, at 1,217.93 acres or 78% of all delineated wetlands. Seasonal wetlands and uplands on the site appear to have low to moderate ecological functions and values due to on-going agricultural activities. Of the 1,200

15

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1 plus acres of seasonal wetlands, roughly 80 acres have been identified as “problem” seasonal
2 wetlands that may or may not be deemed jurisdictional as the wetland delineation is verified by
3 US Army Corps of Engineers. These areas appear likely to exist solely because of the extensive
4 amount of agricultural irrigation. Two features, totaling 3.04 ac, were delineated as vernal
5 pools. In addition, small acreages of perennial wetlands (both non-tidal and muted tidal) were
6 mapped on the site. Riparian floodplain wetland habitat was delineated only in the
7 northeastern corner of the Yolo Flyway Farms property. Tidal wetlands were delineated on Yolo
8 Ranch in two low-lying areas (southwest and southeast of the project site, immediately
9 adjacent to major sloughs).

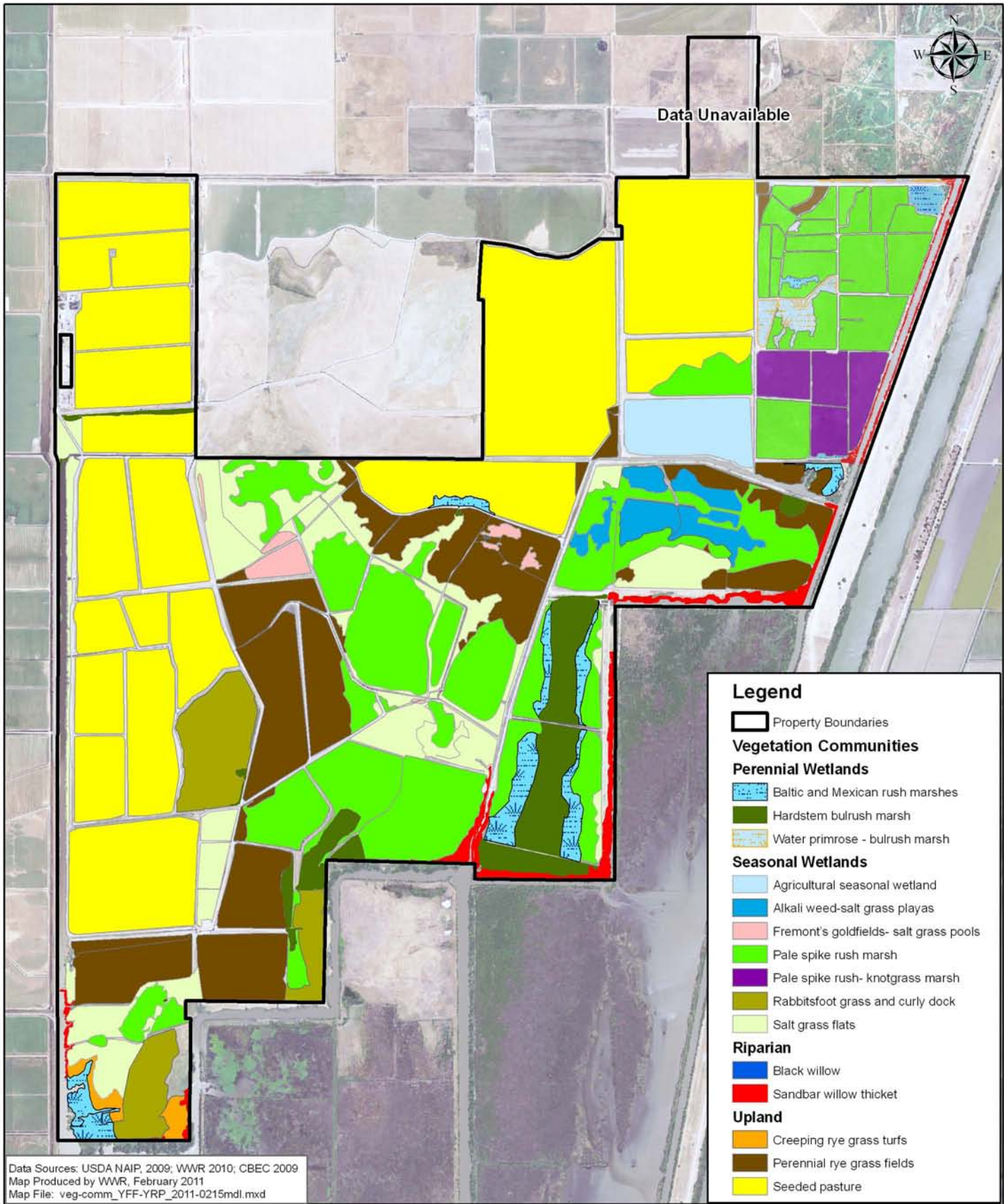
10
11 **Upland Habitats**

12 Upland habitats include all non-wetland terrestrial habitats on the project site. This habitat type
13 includes non-wetland pastures and irrigated agriculture fields, and internal berms and levees. A
14 majority of the project site is heavily irrigated to improve livestock foraging in the summer and
15 for winter duck hunting; however, higher elevation sections of the property do continue to
16 support upland habitats. These upland habitats have moderate ecological functions and values.

17
18 **Aquatic Habitats**

19 Aquatic habitats were divided into two sub-categories: tidal waters and non-tidal waters. Tidal
20 waters include open water stretches that are directly tidally influenced and not inhibited by tide
21 gates or structures. Non-tidal waters were limited to man-made and maintained irrigation and
22 drainages ditches and adjacent sections of channels and sloughs behind tide gates.

23
24 Aquatic habitats provide moderate ecological functions and values. Tidal waters offer passage
25 for special status fish species including steelhead and Chinook salmon, discussed further in the
26 Special Status Species section, below. Non-tidal areas are obstructed by various water control
27 structures, which prevent access to these areas by special status fish species.



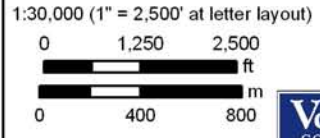
Data Unavailable



Legend

- Property Boundaries
- Vegetation Communities**
- Perennial Wetlands**
- Baltic and Mexican rush marshes
- Hardstem bulrush marsh
- Water primrose - bulrush marsh
- Seasonal Wetlands**
- Agricultural seasonal wetland
- Alkali weed-salt grass playas
- Fremont's goldfields- salt grass pools
- Pale spike rush marsh
- Pale spike rush- knotgrass marsh
- Rabbitsfoot grass and curly dock
- Salt grass flats
- Riparian**
- Black willow
- Sandbar willow thicket
- Upland**
- Creeping rye grass turfs
- Perennial rye grass fields
- Seeded pasture

Data Sources: USDA NAIP, 2009; WWR 2010; CBEC 2009
 Map Produced by WWR, February 2011
 Map File: veg-comm_YFF-YRP_2011-0215mdl.mxd



VEGETATION COMMUNITIES

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

February 2011

Project No. 1150

Figure 7

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Table 1. Vegetation Communities on the Project Site in 2010

HABITAT	COMMUNITY ALLIANCE (DFG)	ACRES	DOMINANT SPECIES	CO-DOMINANTS
Perennial Wetlands				
Tule Marsh	Hardstem bulrush marsh	138.04	Hardstem bulrush (<i>Schoenoplectus acutus</i>)	Narrowleaf cattail (<i>Typha angustifolia</i>), broadleaf cattail (<i>T. latifolia</i>), tall flatsedge (<i>Cyperus eragrostis</i>)
	Water primrose- bulrush stands	18.35	Water primrose (<i>Ludwigia peploides</i>) and hardstem bulrush	Swamp smartweed (<i>Polygonum hydropiperoides</i>)
Juncus Marsh	Baltic and Mexican rush marshes	69.30	Mexican rush (<i>Juncus articus var. mexicanus</i>)	Salt grass (<i>Distichlis spicata</i>), knotgrass (<i>Paspalum distichum</i>), tall flatsedge
Seasonal Wetlands				
Seasonal Wetland	Pale spikerush marsh	729.53	Pale spikerush (<i>Eleocharis macrostachya</i>)	Curly dock (<i>Rumex crispus</i>)
	Pale spikerush-knotgrass marsh	69.36	Pale spikerush, knotgrass	Hardstem bulrush, Bermuda grass (<i>Cynodon dactylon</i>), swamp smartweed and curly dock
	Salt grass flats	303.09	Salt grass	Mediterranean barley (<i>Hordeum marinum</i> spp. <i>gussonianum</i>), alkali heath (<i>Frankenia salina</i>)
	Rabbitsfoot grass	124.12	Rabbitsfoot grass (<i>Polypogon monspeliensis</i>)	Curly dock
	Alkali weed-salt grass playa	59.39	Salt grass and alkali weed (<i>Cressa truxillensis</i>)	Curly dock
	Converted rice field to seasonal wetland*	60.29	Pale spikerush, Mexican rush, knotgrass	Hardstem bulrush, Bermuda grass (<i>Cynodon dactylon</i>), and curly dock
Vernal Pools and Seasonal Pools	Fremont's goldfields-Saltgrass alkaline vernal pools	27.54	Valley downingia (<i>Downingia pulchella</i>), stalked popcorn flower (<i>Plagiobothrys stipitatus var. micranthus</i>)	Coyote thistle (<i>Eryngium vaseyi</i>), whitehead navarretia (<i>Navarretia leucocephala</i> ssp. <i>leucocephala</i>), and multiple goldfields including, Fremont's goldfields, smooth goldfields (<i>L. glaberrima</i>) and yellow ray goldfields (<i>L. glabrata</i>)
Riparian				
Riparian Floodplain Wetland	Black willow	0.37	Black willow (<i>Salix gooddingii</i>)	Fremont cottonwood (<i>Populus fremontii</i>), hardstem bulrush (<i>Schoenoplectus actutus</i>), water primrose (<i>Ludwigia peploides</i>)
Riparian Scrub and Woodland	Sandbar willow thickets (Himalayan black berry brambles)	56.60	Scrub: Narrowleaf (sandbar) willow (<i>Salix exigua</i>) California rose (<i>Rosa californica</i>), blackberry (<i>Rubus discolor</i>) Trees: Cottonwood (<i>Populus fremontii</i>), narrowleaf willow, arroyo willow (<i>Salix lasiolepis</i>),	Scrub: Coyote brush (<i>Baccharis pilularis</i>) Trees: Box elder (<i>Acer negundo</i>), white alder (<i>Alnus rhombifolia</i>), Oregon ash (<i>Fraxinus latifolia</i>), black willow
Upland				
Seeded Pasture/ Hay Fields	Disturbed grassland/agriculture	1192.20	Italian rye (<i>Lolium perenne</i> ssp. <i>multiflorum</i>)	Bur clover (<i>Medicago polymorpha</i>), graceful clover (<i>Trifolium gracilentum</i>)
Upland Grassland	Perennial ryegrass fields	450.85	Italian rye	Strawberry clover (<i>Trifolium fragiferum</i>), white clover (<i>T. repens</i>)
	Creeping ryegrass turf	15.13	Creeping wildrye	Mexican rush, salt grass, curly dock

Vegetation community classification according to Sawyer et al. (2009); Data are from Vollmar Consulting (2010a, b)

1 **IV.2.3 Special-Status Species**

2 Biologists evaluated the project site for the presence of special-status species and for habitats
3 to support special-status species. Species that may occur on or near the site are summarized
4 below.

5
6 **Special-Status Plant Species**

7 Following the preliminary review, a total of 13 special-status plant species were identified to
8 have some potential to occur on the project site. Intensive, protocol-level special-status plant
9 surveys were conducted during spring of 2010 throughout the Yolo Ranch and summer 2010 on
10 Yolo Flyway Farms with a focus on suitable habitat for target species (Vollmar Consulting and
11 Wetlands and Water Resources 2010c). During the surveys, botanists identified and mapped
12 occurrences of three special-status plants on Yolo Ranch: **Mason's lilaopsis** (*Lilaeopsis*
13 *masonii*) (CNPS List 1B.2, no federal or state listing), **Suisun marsh aster** (*Symphyotrichum*
14 *lentum*) (CNPS List 1B.1, no federal or state listing), and **Delta tule pea** (*Lathyrus jepsonii* var.
15 *jepsonii*) (CNPS List 1B.2, no federal or state listing). All three species are associated with the
16 edges of tidal sloughs or large channels (**Table 1**). Project biologists consider it unlikely that any
17 other special-status plants occur on the site, with the exception of **rose mallow** (*Hibiscus*
18 *lasiocarpus* var. *occidentalis*) (CNPS List 2.2, no federal or state listing status), which also occurs
19 along tidal sloughs and riverbanks in the Delta. Some tidal slough edges with dense riparian
20 vegetation were not accessible by land, therefore the potential for this species to occur on the
21 site remains. The vernal pools and alkaline soil areas on the site were readily accessible and
22 carefully surveyed and no special-status plants were observed in these habitats.

23
24 Yolo Flyway Farms was surveyed for the presence of special-status plant species in August and
25 September, which is outside of the peak bloom period for many of the identified potential
26 species (May-July for many). Therefore, these surveys focused on identifying potential habitat
27 for special-status species and for species that could be identified in their vegetative state. These
28 surveys identified minimal potential habitat for special-status plant species and only two
29 species are believed to have a high potential to occur on the property: Delta tule pea and
30 Suisun marsh aster. Yolo Flyway Farms will be re-surveyed for these species during peak bloom
31 period prior to onsite construction activities.

32
33 **Special-Status Wildlife Species**

34 Based on the field investigations (Vollmar Consulting 2010a,b,c; Vollmar Consulting and
35 Wetlands and Water Resources 2010c; Biosearch Associates 2010), review of available
36 databases and literature, familiarity with local fauna, and on-site habitat suitability, a total of 28

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1 special status wildlife species with the potential to occur on site were identified. These are
2 summarized below.

3

4 **Vernal Pool Invertebrates.** A careful assessment of the vernal pools and vernal pool-like
5 seasonal wetlands on the project site was conducted to determine the potential for occurrence
6 of federally listed vernal pool invertebrates (Vollmar Consulting 2010d). Federally listed
7 brachiopod species with potential to occur in the project site include federally threatened
8 **vernal pool fairy shrimp** (*Branchinecta lynchi*), the federally endangered **Conservancy shrimp**
9 (*B. conservatio*) and the federally endangered **vernal pool tadpole shrimp** (*Lepidurus packardii*).
10 Additional large brachiopod species with potential to occur include **California fairy shrimp**
11 (*Lindleriella occidentalis*), **alkali fairy shrimp** (*B. mackini*), **midvalley fairy shrimp** (*B.*
12 *mesovallensis*), and triops. Three vernal pools on the site have moderate potential to provide
13 habitat for listed large brachiopods.

14

15 The U.S. Fish and Wildlife Service (USFWS) protocol-level dry-season surveys for these species
16 were conducted by Helm Biological Consulting (2010) in November of 2010, and revealed no
17 evidence of federally listed brachiopod species; cysts from the common tadpole shrimp
18 (*Triops*) were found in one of the vernal pools on Yolo Ranch. Wet-season surveys for these
19 species will be conducted in winter, 2011.

20

21 **Valley Elderberry Longhorn Beetle.** The valley elderberry longhorn beetle (*Desmocerus*
22 *californicus dimorphus*) is federally listed as threatened. No elderberry shrubs were observed
23 on the project site during surveys for special-status plants. Due to the lack of preferred habitat,
24 it is unlikely that valley elderberry longhorn beetle occurs on the site.

25

26 **Fish.** The Yolo Bypass provides aquatic habitat for at least 44 fish species, all of which have the
27 potential to occur in the project vicinity (Sommer et al. 2003; CDFG unpublished data). The fish
28 assemblage is composed of an ecologically diverse array of native and introduced fish species
29 that may occur year-round in the perennial waters adjacent to the Yolo Bypass and seasonally
30 on the wetted floodplain, or seasonally during the spawning, egg incubation, and early rearing
31 portion of their life cycles. Introduced fish species, which comprise nearly two-thirds of the
32 species composition (n=27; 61%), outnumber the native fish species (n=17; 39%) occurring on
33 the Yolo Bypass. Of the 17 native fish species potentially occurring on the Yolo Bypass, 7
34 individual species have been designated as special-status species under the federal Endangered
35 Species Act (ESA) and California ESA (CESA). These species include **green sturgeon** (*Acipenser*
36 *medirostris*; federally threatened, state species of special concern), **Delta smelt** (*Hypomesus*
37 *transpacificus*; state and federally threatened), **longfin smelt** (*Spirinchus thaleichthys*; state

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1 threatened), **Pacific lamprey** (*Lampetra tridentate*; federal species of concern), **river lamprey**
2 (*Lampetra ayresii*; state species of special concern), **steelhead** (*Oncorhynchus mykiss*; federally
3 threatened), and all four runs of **Chinook salmon** (*Oncorhynchus tshawytscha*) occurring in the
4 Central Valley. These runs include spring-run (state and federally threatened), fall-run (state
5 and federal species of concern), late fall-run (state and federal species of concern), and winter
6 run (state and federally endangered).

7

8 **Reptiles.** The proposed project site contains suitable habitat for two special status reptiles: the
9 **western pond turtle** (*Actinemys marmorata*) and the **giant garter snake** (*Thamnophis gigas*).
10 One western pond turtle was observed on the Yolo Ranch property, basking along the edge of
11 one of the larger canals (Biosearch Associates 2010). Based on this sighting, it is assumed that
12 western pond turtle occurs on the project site. Suitable habitat includes all of the larger canals
13 and irrigation ditches.

14

15 Biologists determined that the project site is on the edge of the local range for giant garter
16 snake but that there is potential for the species to occur on and in the immediate vicinity of the
17 project site, due to the presence of both suitable and marginal habitat. A project site habitat
18 assessment for giant garter snake is currently underway.

19

20 **Birds.** The proposed project site contains suitable nesting and foraging habitat for special-status
21 raptors including **Swainson's hawk** (*Haliaeetus leucocephalus*; observed on site), **merlin** (*Falco*
22 *columbarius*), **white-tailed kite** (*Elanus leucurus*), **northern harrier** (*Circus cyaneus*; observed on
23 site), **western burrowing owl** (*Athene cunicularia hypugaea*), and **short-eared owl** (*Asio*
24 *flammeus*; observed on site). Though all nesting raptors are protected under CDFG Code
25 §3503.5 – some are given further protection status through federal and state endangered
26 species protection. Swainson's hawk is listed as state threatened under CESA and removal of
27 suitable nesting and/or foraging habitat is regulated by CDFG. White-tailed kite nesting sites are
28 designated as fully protected by §3511 of the CDFG Code. Northern harrier, burrowing owl and
29 short-eared owl are considered species of special concern by CDFG.

30

31 The proposed project site also contains suitable nesting habitat for common migratory birds
32 and waterfowl such as **redhead** (*Aythya Americana*), **American white pelican** (*Pelecanus*
33 *erythrorhynus*), **American bittern** (*Botaurus lentiginosus*), **Western yellow-billed cuckoo**
34 (*Coccyzus americanus occidentalis*), **bank swallow** (*Riparia riparia*), **mountain plover**
35 (*Charadrius montanus*), **black tern** (*Chlidonias niger*), **loggerhead shrike** (*Lanius ludovicianus*),
36 **grasshopper sparrow** (*Ammodramus savannarum*), **yellow-headed blackbird** (*Xanthocephalus*
37 *xanthocephalus*), and **tricolored blackbird** (*Agelaius tricolor*). Nesting migratory birds are

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1 protected under the Migratory Bird Treaty Act, which protects migratory birds, their occupied
2 nests, and their eggs.

3

4 **Mammals.** Three special status bat species have the potential to occur on the project site. Two
5 of these species, **Townsend’s western big-eared bat** (*Corynorhinus (=Plecotus) townsendii*
6 *townsendii*) and **Yuma myotis bat** (*Myotis yumanensis*) are listed by the Western Bat Working
7 Group as needing special consideration (2010). Townsend’s big-ear bat and a third species, the
8 **pallid bat** (*Antrozous pallidus*) are listed as California Species of Special Concern. Riparian and
9 stream habitat on the project site provide suitable foraging and roosting habitat for all three of
10 these species; however, documented occurrences of these species has not been confirmed on
11 the site.

12 **IV.4 Discussion of Impacts**

13 Note that while the proposed project goals and objectives, as discussed in Section A.8.2 above,
14 are specifically to achieve a range of important benefits to a number of species of conservation
15 importance in the Sacramento-San Joaquin River Delta, the potential for impacts to some
16 species does exist. In most cases, the potential impacts are short in duration as they are
17 associated with construction activities. The primary areas of potential impacts that would be
18 more significant in nature are associated with species dependent upon irrigated agricultural
19 lands most of which are currently grazed seasonal wetlands.

20

21 **a) Would the project have a substantial adverse effect, either directly or through habitat**
22 **modifications, on any species identified as a candidate, sensitive, or special status species**
23 **in local or regional plans, policies, or regulations, or by the California Department of Fish**
24 **and Game or U.S. Fish and Wildlife Service?**

25

26 **Vernal Pool Invertebrates**

27 Project biologists have identified two vernal pools and one isolated seasonal depression on the
28 Yolo Ranch property that contain potential habitat for special-status vernal pool invertebrates
29 (Vollmar Consulting 2010d). The drainage ditch connecting the third seasonal pool (non-vernal
30 pool due to artificial hydrology) to seasonal wetlands could be impacted during the proposed
31 restoration. Creation of tidal wetlands would convert the connection of the drainage ditch from
32 a seasonal wetland connection to a tidal connection during the highest tides. The two vernal
33 pools would be completely avoided during restoration activities and construction of the
34 proposed project would not directly impact or disturb these pools. However, long-term impacts
35 of tidal inundation to the site may result in minor modifications to vernal pool hydrology.
36 Project impact to vernal pool invertebrates could be **potentially significant** and will be
37 evaluated in the EIR.

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Giant Garter Snake

Project biologists have determined that the project site contains suitable aquatic habitat and summer-suitable upland habitat for the federally threatened giant garter snake. Implementation of the proposed project would result in an overall increase of perennial aquatic habitat as well as increase the amount of wetlands and wetland-upland interface, both beneficial changes for this species. The long-term impact of the proposed project on giant garter snake and its habitat is considered beneficial. Construction activities associated with restoration could have temporary, short-term impacts on individual giant garter snakes that inhabit the proposed project footprint. This impact could be **potentially significant** and will be assessed in the EIR.

Special-Status Birds

Suitable nesting and foraging habitat for special-status birds, migratory birds and raptors is present within wetland and upland habitats on the project site. Construction activities of the proposed project would result in temporary loss of upland foraging and nesting habitat for species such as white-tailed kite, short-eared owl and other birds of prey in discrete portions of the site. Removal of vegetation or disturbance to suitable foraging and nesting habitat during construction of the proposed project could temporarily impact special-status bird species and/or their nests.

Additionally, with implementation of the proposed project, breaches along the levee would result in inundation of the seasonal wetland and upland areas with tidal waters. The long-term conversion of seasonal wetland habitat to tidal marsh habitat would result in a minor change in distribution and abundance of bird species foraging at the proposed project site. Creation and protection of tidal marsh wetland habitat within the site would increase the extent of suitable nesting habitat for waterfowl while potentially decreasing foraging habitat suitability in some areas for Swainson’s hawk. Potential nesting sites for burrowing owls (rip-rap piles) would be impacted due to construction of the toe berm; however, surveys conducted in the summer of 2010 indicated that these sites were not currently or in recent years used by this species for nesting.

Project impacts on special status bird species could be **potentially significant** and therefore will be assessed in the EIR.

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1 **Special-Status Plants**

2 Implementation of the proposed project (i.e., construction activities) could impact or extirpate
3 documented and potentially occurring special-status plant individuals, populations, and/or its
4 seed bank if they are present within the project footprint during initial ground disturbance. The
5 proposed project would establish far greater extent of suitable habitat for these plant species.
6 Construction-related project impacts on special status plant species could be **potentially**
7 **significant** and therefore will be assessed in the EIR.

8
9 **Special-Status Fish**

10 Delta smelt, longfin smelt, salmonids, green sturgeon, and Sacramento splittail could occur in
11 waters surrounding the site and, during Yolo Bypass floodplain inundation flows, on the project
12 site. In the long term, the proposed project should result in a net benefit to fish due to habitat
13 creation and aquatic food web enhancement. The potential for significant effects on fisheries
14 and aquatic resources from construction activities would be evaluated based on the intensity,
15 duration, and timing of the various disturbances to aquatic resources. As noted under the water
16 quality section, breaching levees and preparation of soils for restoration activities could
17 mobilize sediment and generate short-term increased turbidity. Periods of turbidity can reduce
18 feeding opportunities for sight-feeding fish, clog and abrade gill filaments, smother eggs and
19 larvae, and reduce production and availability of food organisms (Waters 1995). Construction
20 would also require the use of heavy machinery over flood plain soils. Accidental leaks and spills
21 of hydraulic fluids, lubricants, fuels, and other associated construction materials could degrade
22 water quality and have adverse effects on fish growth, survival, and reproduction (Moyle and
23 Cech 1996).

24
25 Construction-related impacts may be locally significant because fish habitat quality could be
26 reduced within and near the construction area and fish mortality could occur. Project impacts
27 on special status fish species could be **potentially significant** and therefore will be assessed in
28 the EIR.

29
30 **Valley Elderberry Longhorn Beetle**

31 Valley elderberry bushes were not observed on the project site within accessible riparian areas.
32 Some sections of riparian were too dense to completely access and survey, therefore some
33 potential for this shrub to occur on the site exists. The excavation areas proposed under the
34 project design would not impact riparian woodland areas on the project site; however, some
35 trees may be impacted due to creation of a tidal connection along the Stair Step. This
36 connection is currently considered as an optional feature to restore tidal action. Additionally, a
37 very minor amount of sparse riparian scrub located at the toe of the west Yolo Bypass levee

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1 would be impacted due to construction of the Yolo Bypass levee toe berm on the western edge
2 of Yolo Ranch. Restoration impacts due to the tidal connection and toe berm construction occur
3 in areas where no valley elderberry bushes were observed. Under the proposed (omitting the
4 optional feature) tidal connection and restoration plan, **no impact** would occur to woodland
5 trees or potential habitat for this species. Therefore impacts to this species will not be further
6 evaluated in the EIR.

7
8 **b) Would the project have a substantial adverse effect on any riparian habitat or other**
9 **sensitive natural community identified in local or regional plans, policies, or regulations,**
10 **or by the California Department of Fish and Game or US Fish and Wildlife Service?**

11 Wetlands are considered sensitive natural communities and impacts are addressed under item
12 “c” below. The only other sensitive natural communities, as defined by the California
13 Department of Fish and Game’s List of California Terrestrial Natural Communities (CDFG 2003),
14 is riparian habitat, which would have little or no disturbance as a result of restoration activities
15 (see item “a” above). The project site consists of agricultural lands routinely disturbed by
16 grazing and feed growing activities. Riparian woodland habitat in the project site would remain
17 undisturbed during implementation of the proposed project. However, a small section of
18 riparian woodland (emergent trees) would be impacted by the creation of an (optional) channel
19 connection (breach) to the adjacent Stair Step tidal slough. This loss of riparian woodland
20 habitat is **potentially significant** and will be addressed in the EIR. Long-term changes to site
21 hydrology would have a less-than-significant impact on existing riparian habitat within or
22 adjacent to the project site.

23
24 **c) Would the project have a substantial adverse effect on federally protected wetlands as**
25 **defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal**
26 **pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other**
27 **means?**

28 Implementation of the proposed project would cause modifications to site hydrology and result
29 in conversion of primarily seasonal and some perennial nontidal wetland habitat to tidal marsh
30 habitat. The proposed project net result would be an overall increase in wetland habitat by
31 approximately 130 acres.

32 When the proposed project is completed, approximately 70 acres of tidal waters and 1,100
33 acres of tidal wetland would be created and maintained in perpetuity on the property. The
34 conversion or disturbance to approximately 800 acres of seasonal wetland habitat (primarily
35 irrigated pasture) is considered less than significant, because this habitat would be converted to
36 higher functioning tidal water and tidal marsh habitats reflective of historic habitat conditions
37 in the project area and would result in no net-loss of wetland habitat. Temporary disturbance

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1 to seasonal wetland habitats outside of the restoration footprint during construction may be
2 **potentially significant** and will therefore be assessed in the EIR.

3

4 **d) Interfere substantially with the movement of any native resident or migratory fish or**
5 **wildlife species or with established native resident or migratory wildlife corridors, or**
6 **impede the use of native wildlife nursery sites?**

7 The project has been designed to maximize habitat suitability for fish and wildlife species that
8 inhabit the Delta and the Yolo Bypass floodplain. It consists of excavation of tidal channel
9 networks and lowering elevations in some current uplands in order to facilitate the movement
10 of tidal water between sources such as Liberty Cut, the Stair Step, the Toe Drain, and the
11 intertidal portions of the project site. Implementation of the project would not interfere
12 substantially with the movement of any native resident or migratory fish or wildlife species or
13 with established native resident or migratory wildlife corridors, or impede the use of native
14 wildlife nursery sites, because the proposed restoration would establish a high quality wildlife
15 corridor connecting tidally influenced and floodplain habitats. Construction activities may result
16 in temporary disturbance to wildlife movement; however the overall, long-term impact on
17 wildlife movement habitat would be beneficial. The short-term impact could be **potentially**
18 **significant** and therefore will be evaluated in the EIR.

19

20 Under the West Yolo Bypass Levee soil disposal option, the diked borrow ditch within the
21 project boundary would be filled and relocated. No special status fish assessment has been
22 conducted for this borrow ditch, which serves farmland irrigation and drainage purposes. Due
23 to this management regime, it is likely that only common invasive fish inhabit these waters.
24 Discussion of impacts to these waters with USFWS, CDFG, and NOAA-Fisheries Service confirm
25 that there would be no adverse impacts to special status fish resulting from the fill and
26 relocation of the borrow ditch. Therefore the project would have no impact on special status
27 fishes in this water body.

28

29 Creation of tidal channels and sloughs on the project site would introduce shallow water
30 foraging and spawning habitat for special status fish. A major issue affecting the quality of
31 shallow water habitats in the Sacramento-San Joaquin River Delta is the introduction of invasive
32 species such as Brazilian waterweed (*Egeria densa*) and largemouth bass (*Micropterus*
33 *salmoides*). Brazilian waterweed invades natural waterways and significantly impedes water
34 flow, reduces turbidity, harbors invasive predator fish species, and decreases the quality of
35 habitat for native resident and anadromous fish. Currently, this species has not been observed
36 on the project site, but the potential of invasion of this species is high due to the level of
37 infestation of *Egeria* in Delta habitats.

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1
2 Two primary invasive exotic upland plant species of concern were identified on the project site
3 during field surveys. These include perennial pepperweed (*Lepidium latifolium*) and yellow star-
4 thistle (*Centaurea solstitialis*). Both species hold a rating of “high” on the California Invasive
5 Plant Council Inventory (Cal-IPC 2006), indicating that the invasion of such species may “have
6 severe ecological impacts on physical processes, plant and animal communities, and vegetation
7 structure.”

8
9 Impacts of invasive plants and animals identified above may be **potentially significant** and will
10 therefore be assessed in the EIR.

11
12 **e) Conflict with any local policies or ordinances protecting biological resources, such as a**
13 **tree preservation policy or ordinance?**

14 The Yolo County General Plan sets forth goals and policies that direct the preservation of
15 wetland and riparian areas, fish and wildlife habitat, vegetation, and open space for the
16 preservation of wildlife resources (See Section X, Land Use). Implementation of the proposed
17 project would be consistent with these goals and policies, resulting in **no impact**. Therefore this
18 issue will not be addressed further in the EIR.

19
20 **f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community**
21 **Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

22 The proposed project does not conflict with any adopted Habitat Conservation Plan (HCP),
23 Natural Community Conservation Plan (NCCP), or other approved local, regional, or state
24 habitat conservation plan. The proposed Yolo County HCP/NCCP and Bay Delta Conservation
25 Plan (BDCP) HCP/NCCP and the State’s Delta Plan are in development; therefore the exact
26 portions of these plan areas relevant to the proposed project site are not known with certainty.
27 It is likely that some, or possibly all, of the proposed project site may be located within the Yolo
28 County HCP/NCCP, BDCP plan, and/or the Delta Plan areas. To date, the goals and objectives of
29 the proposed project are consistent with these draft regional plan documents. The primary
30 goals of the project are to enhance regional food web productivity in support of Delta Smelt
31 recovery and to provide rearing habitats for outmigrating salmonids utilizing the Yolo Bypass.
32 The secondary goals of the project are to support a broad range of other aquatic and wetland-
33 dependent species and to provide ecosystem functions of the Delta freshwater tidal marsh –
34 floodplain – seasonal wetland – lowland grassland interfaces. Therefore the project would be
35 consistent with the goals of the draft County HCP/NCCP, BDCP, and the Delta Plan and there
36 would be **no impact**. This issue will not be evaluated further in the EIR, unless substantial new
37 information is released from these evolving plans that may be critical to the EIR analysis.

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1 **V Cultural Resources**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	X			
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	X			
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	

3

4 **V.1 Background**

5 A detailed cultural resources assessment of the Yolo Ranch (formerly known as McCormack
6 Ranch and Mound Ranch) and Yolo Flyway Farms parcels was conducted by Holman &
7 Associates in August 2010 (Holman & Associates 2010).

8

9 No prehistoric archaeological resources were identified within the project site during the
10 pedestrian survey, consistent with the results of previous studies completed near the study
11 area and pre-field work research that indicated much of the study area was historically and
12 currently susceptible to flooding and uninhabitable during part of the year. A 1995 survey
13 report by Dames & Moore (Hale, Kelly and Nilsson 1995) acquired at the Northwest information
14 Center did indicate that a prehistoric site might be present on the Mound Ranch compound, a
15 collection of ranch buildings and infrastructure located within the restricted-height levee area
16 in the northwest corner of the property and outside the wetland restoration area. However,
17 intensive inspection of the mound and surrounding ranch complex failed to reveal any evidence
18 of a prehistoric archaeological resource.

19

20 The survey identified several historic era structures within the Mound Ranch compound, more
21 recent structural remains on a Yolo Flyway Ranch parcel, two abandoned gas well structures,
22 segments of flood control levees, and numerous hydrologic and water control structures. Some
23 of these structures and features require evaluation and possibly recording by a qualified
24 architectural historian.

1 **V.2 Discussion of Impacts**

2 **a, b) Cause a substantial adverse change in the significance of a historical resource as defined**
3 **in Section 15064.5? Cause a substantial adverse change in the significance of an**
4 **archaeological resource pursuant to Section 15064.5?**

5 No prehistoric or historic archaeological cultural resources meeting California Register of
6 Historical Resources or National Register of Historic Places eligibility criteria as significant or
7 unique archaeological resources were previously recorded on the project site and none were
8 identified during the pedestrian survey. However, there is some potential for buried
9 archaeological resources to be unearthed during project construction, which could result in a
10 **potentially significant** impact. In addition, it is possible that the site may be considered a
11 historic landscape. Therefore these issues will be assessed further in the EIR.

12
13 **c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic**
14 **feature?**

15 As described in the Geology section, below, the site's geologic conditions are common and,
16 because of their recent depositional origins, are not conducive to hosting paleontological
17 resources at the shallow depths that would be affected by project excavations. Therefore
18 potential impacts associated with the proposed project would be **less than significant**. This
19 issue will not be further assessed in the EIR

20
21 **d) Disturb any human remains, including those interred outside of formal cemeteries?**

22 No evidence of human burials was found in the project cultural resources survey. Burial sites
23 associated with settlement are unlikely, given that the area was mostly wetlands until the
24 1910s or 1920s and has always been an active floodplain both before and after construction of
25 the Yolo Bypass portion of the Sacramento River Flood Control Project. This impact would be
26 **less than significant** and will not be addressed in the EIR.

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1 **VI Geology and Soils**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?	X			
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?				X

3

4 **VI.1 Background**

5 The project is located in the Sacramento-San Joaquin River Delta within the Great Valley
6 geomorphic province of California, a wide alluvial plain bounded to the east by the Sierra
7 Nevada mountain range and to the west by the Coast Range mountain range (CGS 2002). The

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1 geology of the project site is dominated by Quaternary (1.8 million years ago – present) basin
2 deposits and alluvium eroded from the adjacent mountain ranges. Hydraulic mining debris
3 generated during the gold rush in the mid to late 1800s also has contributed significant material
4 to the vicinity as hundreds of millions of tons of silt washed down from the Sierra Nevada and
5 deposited within the Delta.

6
7 Indicative of the geology, the soils on the project site are dominated by moderately to poorly
8 drained, alluvial clay soils. The only exceptions are the east and west Yolo Bypass Levees, which
9 are constructed of compacted fill material from various sources (USDA 1972). An investigation
10 of soil characteristics on site was conducted in the summer of 2010 (Kelley 2010). The surface
11 soils on the site are characterized by fine textured material and display poor development,
12 indicative of the apparently recent deposition of the parent material, as described above. The
13 generally clayey soils are compacted, dry at the surface where not irrigated, and relatively
14 fertile, though they are frequently saline. Across much of the site, these surface soils are
15 underlain by a hydrologically restrictive duripan layer (iron-silicate cemented hardpan soil) that
16 restricts the transmission of groundwater and results in a perched water table in the soil layers
17 above it. The heavy irrigation of the site for agricultural purposes resulted in groundwater
18 saturation in soil layers above the duripan in all sampling locations.

19
20 There are several minor, inactive faults within 20 miles of the project site. These include the
21 Midland Fault (3 miles away), the East Valley Fault (8.5 miles away), the West Valley Fault (15
22 miles away), and the Willows Fault (16 miles away). The site could be affected by shaking on
23 major faults in the seismically active San Francisco Bay area, including the San Andreas,
24 Hayward, Concord, and Calaveras faults. A 2003 report by the U.S. Geologic Survey (USGS)
25 indicates that there is a 62% probability of at least one magnitude 6.7 or greater quake along
26 one of the major faults in the greater San Francisco Bay area between 2003 and 2032 (USGS
27 2003).

28 29 **VI.2 Discussion of Impacts**

30 **a) Expose people or structures to potential substantial adverse effects, including the risk of**
31 **loss, injury, or death involving:**

- 32 ***i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo***
33 ***Earthquake Fault Zoning Map issued by the State Geologist for the area or based on***
34 ***other substantial evidence of a known fault?***

35 The site is not located within an Alquist-Priolo earth fault rupture hazard zone (California
36 Geologic Survey 1997). The project would include some temporary structures such as office
37 trailers, portable toilets, and storage containers, but would not include any permanent

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1 structures that could be damaged by earthquake fault rupture. The project would not
2 substantially increase public access at the site over current levels. The project would
3 improve the integrity of the existing Shag Slough levee. The project would therefore not
4 increase the likelihood of property damage or human injury on the site, or in the vicinity,
5 resulting from seismic activity. There would be **no impact** from fault rupture, and therefore
6 this issue will not be addressed further in the EIR.

7
8 **ii. Strong seismic ground shaking?**

9 An analysis of statewide earthquake shaking potential for California (Branum et al. 2008)
10 indicates that the project site has a relatively low potential for structural damage due to an
11 earthquake. The Revised 2002 California Probabilistic Seismic Hazard Maps (Cao et al. 2003)
12 indicate that the peak ground acceleration (PGA) with a 10% probability of being exceeded
13 in 50 years is 0.298g (where “g” is the acceleration of gravity) at the project site. For
14 comparison, the PGA listed for San Francisco in the same study is 0.6g. As indicated in Item
15 VI – i, above, the project does not include any permanent structures that could be damaged
16 by an earthquake, nor would it substantially increase public access at the site over current
17 levels. Office trailers would be supported on wheels, and therefore would be unlikely to
18 suffer failure of supporting structures in an earthquake. Existing access for duck hunting on
19 the Yolo Flyway Farms site would be reduced or eliminated. The project would therefore
20 not increase the likelihood of property damage or human injury on the site, or in the
21 vicinity, resulting from seismic activity. This impact would be **less than significant** and
22 therefore will not be addressed further in the EIR.

23
24 **iii. Seismic-related ground failure, including liquefaction?**

25 As described in c), below, the site likely has a relatively high potential for liquefaction and
26 lateral spreading, which is common for floodplain and deltaic ecosystems. The exceptions
27 are the constructed levees on site, which are engineered specifically to avoid such soil
28 movements. The project would return a portion of the site to tidal wetlands and associated
29 transitional habitats, similar to those that existed on the site prior to conversion to
30 agriculture. Any liquefaction or lateral spreading occurring in these habitats would be
31 associated with the physical processes that govern these ecosystems and would not
32 constitute a significant negative impact. The new toe berm along the western Yolo Bypass
33 levee would be constructed with a gradual slope and would be compacted to engineering
34 specifications and stabilized with vegetation and/or geotextiles following construction,
35 thereby reducing the risk of failure to a **less-than-significant** level. Therefore, this issue will
36 not be addressed further in the EIR.

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1 **iv. Landslides.**

2 The site is not located within a landslide hazard zone. The site topography is very flat and
3 therefore not prone to landslides. The new toe berm along the western Yolo Bypass levee
4 would be constructed with a gradual slope (between 10:1 and 20:1), compacted to
5 engineering specifications, and stabilized with vegetation and/or geotextile following
6 construction, thereby reducing the risk of failure. As indicated in Item VI – i, above, the
7 project would not include any structures that could be damaged by a landslide, nor would it
8 increase public access at the site over current levels. The project would therefore not
9 increase the likelihood of property damage or human injury on the site, or in the vicinity,
10 resulting from landslides. Therefore there would be **no impact** and this issue will not be
11 addressed further in the EIR.

12
13 **b) Result in substantial soil erosion or the loss of topsoil?**

14 The project would involve the excavation of tidal channels and expanded intertidal marsh areas
15 and removal and modification of existing water control structures. The construction of these
16 project elements would involve extensive excavation and earthmoving activities that would
17 involve substantial soil disturbance. The excavated soils would be utilized to construct the toe
18 berm along the eastern Yolo Bypass Levee. Any material not utilized in this levee would be
19 stockpiled within restricted height levee near the ranch compound or removed from the project
20 site altogether. The proposed construction methods for this project would be specifically
21 designed to reduce soil erosion and loss to a less-than-significant level and implementation of a
22 SWPPP, as described in Section IX, Hydrology and Water Quality, would further reduce these
23 impacts. The primary potential for impact would therefore be limited to severe rain storms
24 during the late spring to early fall construction window that could lead to short-duration soil
25 erosion during disturbed site conditions; such storms occur very infrequently during the
26 planned construction time of year. However, there is the possibility of such an event and
27 therefore the impact would still be **potentially significant** and will be addressed in the
28 Hydrology and Water Quality chapter of the EIR.

29
30 In the long term, this project would be designed to increase tidal exports of organic and
31 inorganic materials to the surrounding Delta ecosystem, thus increasing local turbidity to
32 benefit the federally endangered Delta smelt and supporting other ecological functions.
33 Therefore, some erosion from restored tidal marsh and channel areas would be expected as
34 part of the project and would not constitute a negative impact.

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1 **c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a**
2 **result of the project, and potentially result in on- or off-site landslide, lateral spreading,**
3 **subsidence, liquefaction or collapse?**

4 The project site is located on alluvial soils in an active floodplain. The elevation of much of the
5 site is intertidal or only a few feet above mean higher high water (MHHW), leading to shallow
6 groundwater saturation in areas adjacent to tidal water bodies. In addition, the presence of the
7 duripan layer within 75 inches of the surface across much of the site results in a perched water
8 table. Rainfall and flood flows during the rainy season, and heavy irrigation during the dry
9 season keep the surface soils across much of the site saturated throughout the year. Therefore,
10 the site soils likely have a relatively high potential for liquefaction and lateral spreading, which
11 is common for floodplain and deltaic ecosystems. The exceptions are the constructed levees on
12 site, which are engineered specifically to avoid such soil movements.

13
14 The project would return a portion of the site to tidal wetlands and associated transitional
15 habitats, similar to those that existed on the site prior to conversion to agriculture. Any
16 liquefaction or lateral spreading occurring in these habitats would be associated with the
17 physical processes that govern these ecosystems (i.e., channel bank slumping and spreading)
18 and would not constitute a significant negative impact. The new toe berm along the western
19 Yolo Bypass levee would be constructed with a gradual slope and would be compacted to
20 engineering specifications and stabilized with vegetation and/or geotextiles following
21 construction, thereby reducing the risk of failure to a less-than-significant level. As noted in
22 Item VI.2-a-iv, above, the site is generally level and therefore not prone to landslides. Therefore
23 the project would have a **less-than-significant** impact associated with unstable soils conditions.
24 This issue will not be further addressed in the EIR.

25
26 **d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code**
27 **(1994), creating substantial risks to life or property?**

28 The soils on the project site are primarily alluvial clays, which are highly expansive by nature.
29 However, no permanent structures are planned for the project that could potentially be
30 impacted by the expansive nature of the soils on the site. Temporary construction trailers,
31 portable toilets, and storage containers would be set up on site during construction. Since
32 construction would only occur during the dry months and these structures would only be
33 positioned in areas where irrigation has ceased and soils are not subjected to wetting and
34 drying cycles, there should be **no impact** to these structures or personnel using them due to the
35 expansive nature of the soils. Therefore this issue will not be further addressed in the EIR.

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1 **e) Have soils incapable of adequately supporting the use of septic tanks or alternative**
2 **wastewater disposal systems where sewers are not available for the disposal of waste**
3 **water?**

4 No septic tanks or waste-water disposal systems are planned as part of the project. Portable
5 toilets would be utilized during construction and waste would be disposed of in an approved
6 manner off site. Therefore ***no impact*** would occur and this issue will not be further addressed
7 in the EIR.

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VII Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

VII.1 Background

California has enacted at least three executive orders regarding greenhouse gasses (GHG). California also enacted Assembly Bill 32 - "The California Global Warming Solutions Act of 2006" (AB32) to reduce the state's emissions of greenhouse gasses. The findings in AB32 describe the potential adverse impacts of global warming as including the exacerbation of air quality problems, a reduction in the quality and supply of water to the State from the Colorado River and the Sierra snowpack, a potential rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. In addition, California Senate Bill 97 (Chapter 185, 2007) was enacted and required the Governor's Office of Planning and Research to develop amendments to the *State CEQA Guidelines* for addressing GHG emissions within an EIR. That guidance became effective March 18, 2010.

VII.2 Discussion of Impacts

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The only sources of GHG emissions from the proposed project would be those associated with short-term construction activities. Although it is unlikely that these emissions would exceed the 25,000-tons/year significance criteria, this *less-than-significant impact* will be quantitatively evaluated in the EIR.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

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1 The 2009 Yolo County General Plan calls for the development of a Climate Action Plan. Yolo
2 County is currently developing that Climate Action Plan, which will include strategies and
3 measures aimed at reducing GHG emissions. However, the County currently does not have an
4 adopted GHG emissions reduction plan, policy, or regulation. Therefore, the proposed project
5 would not conflict with an applicable plan, policy, or regulation adopted for the purpose of
6 reducing the emissions of GHG. ***No impact*** would occur and therefore this impact will not be
7 further evaluated in the EIR.

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1 **VIII Hazards and Hazardous Materials**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	X			
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

1 **VIII.1 Background**

2 The project site has been reviewed in a number of environmental site assessments, which are
3 summarized below:

4
5 **Yolo Ranch Property**

- 6 • *WallaceKuhl and Associates (WKA). Phase I Environmental Site Assessment, Yolo Ranch*
7 *Property, Yolo County, CA. September 17, 2007 (WKA 2007a).* This environmental site
8 assessment (ESA) included a site inspection and literature review for the 3445-acre Yolo
9 Ranch property. It identified a number of conditions that had the potential for
10 negatively impacting human health and/or the environment, including (1) a former
11 refuse dump adjacent to an irrigation ditch on the western side of the property outside
12 the proposed project footprint, and (2) soil staining observed in a farm equipment
13 storage area near an on-site shop building in the ranch complex area. It also included a
14 number of recommendations for demolition of structures and abandoning the water
15 wells and septic systems on the site, if applicable. Based on the results of the ESA, WKA
16 recommended a Limited Phase II subsurface assessment to further evaluate conditions
17 at these two sites and the reports summarized below describe the resolution of these
18 two areas.

- 19
20 • *WKA. Report of Findings - Limited Phase II Assessment, Yolo Ranch Property, Yolo*
21 *County, CA. October 2, 2007 (WKA 2007b).* This assessment was conducted to evaluate
22 whether chemically affected soil that would require off-site disposal at an appropriate
23 facility is present in areas of concern identified in the Phase I ESA. The assessment
24 included excavation of 24 shallow exploratory test pits based on the observations and
25 recommendations in the Phase I ESA. A total of 18 soil samples were collected from 11
26 of the 24 test pit locations, based on the observed presence of buried debris. An
27 additional soil sample was taken in the stained-soil area. Soil in the area of the retired
28 refuse dump had elevated concentrations of arsenic, cadmium, chromium, and lead
29 (above corresponding California Human Health Screening Levels for residential Land
30 Uses [CHHSLs] and EPA Preliminary Remediation Goals for Residential Land Uses
31 [PRGs]). Soil analytical results showed concentrations of arsenic, cadmium and zinc
32 exceeding EPA's Total Threshold Limit Concentrations (TTTLs). Although WKA detected
33 metals concentrations in site groundwater, the data suggests metals in the soil are not
34 rapidly migrating into the groundwater. WKA recommended that approximately 730
35 cubic yards of chemically impacted soil be excavated from the retired refuse dump and
36 properly disposed, followed by confirmation soil sampling.

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- 1 • *Geocon Consultants, Inc. Report of Additional Soil Investigation, November 19, 2007.*
2 Geocon (2007a) sampled and evaluated five shallow exploratory pits in the area of
3 WKA’s previous exploratory pits for metals. Geocon’s assessment confirmed that
4 concentrations of antimony, arsenic, cadmium, lead, and zinc in site soils exceeded their
5 respective CHHSLs. Geocon recommended that approximately 11 cubic yards of soil
6 surrounding one of the WKA test pits be excavated and removed.
7
8 • *Geocon Consultants, Inc. Soil Removal Report, December 6, 2007.* On November 21,
9 2007, Geocon (2007b) excavated and removed 11 cubic yards of soil from the identified
10 contaminated site. Soil analyses showed a reduction in heavy metals concentrations
11 below the CHHSLs in the south, east, and western sidewalls and bottom confirmation
12 samples. Arsenic and cadmium concentrations collected from the north sidewall
13 exceeded their respective CHHSLs.
14
15 • *WKA. Report of Findings - Supplemental Phase II Assessment, Yolo Ranch Property, Yolo*
16 *County, CA. December 20, 2007.* WKA (2007c) conducted additional test pit excavation
17 and sampling at the site on December 5, 2007, to further delineate the extent of
18 previously identified heavy-metal affected soil conditions. WKA enlarged Geocon’s
19 northern pit excavation by another two feet, resulting in one cubic yard of additional
20 contaminated soils being removed and appropriately disposed. Additional samples were
21 conducted of stockpiled soils. The combined results of WKA’s assessments of the former
22 refuse dump indicated that the site soils contain cadmium and lead at concentrations
23 exceeding their respective CHHSLs for residential land use, requiring excavation and off-
24 site disposal or redesignation of that part of the site to restrict land uses. Arsenic was
25 found at background levels present in native soils.
26
27 • *Geocon Consultants, Inc. Former Dump Area, Yolo Ranch, Yolo County, CA, Removal and*
28 *Offsite Disposal of Excavated Soil. April 18, 2008.* This report (Geocon 2008)
29 documented soil removal from the area and offsite disposal. It concluded that “The
30 source of the highest concentrations of metals in the former dump area and 13.4 tons of
31 surrounding soil have been excavated and removed from the Site. No further
32 environmental assessment or remediation is recommended for the former dump area.”
33

34 **Yolo Flyway Farms Property**

- 35 • *WKA. Phase I Environmental Site Assessment, Yolo Flyway Farms Ranch Property, Yolo*
36 *County, CA. February 1, 2008.* This ESA conducted a historic literature review, site owner
37 interviews, and site reconnaissance of the 452-acre Yolo Flyway Farms property (WKA

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1 2008a). That review indicated that the site was developed with a cabin by at least 1961,
2 and had been used as pastureland and by a duck-hunting club from about 1958 to 2008.
3 An agricultural well, an idle natural gas well, and a plugged natural gas well were
4 identified on the site, as were pole-mounted electrical transformers. The report
5 recommended:

- 6
- 7 ○ If the existing cabin is to be demolished, removed, or renovated, that it be
- 8 surveyed for asbestos-containing materials and lead based paints.
- 9 ○ If information about prior agricultural (tomato crops) is identified, conduct
- 10 confirmational soil sampling for pesticide residues.
- 11 ○ The on-site debris pile should be removed and disposed of appropriately. If soil
- 12 staining is found after removal, soil testing may be appropriate.
- 13 ○ If existing water supply wells are no longer used, they should be properly
- 14 abandoned, requiring a well abandonment permit from the Yolo County
- 15 Environmental Health Department.
- 16 ○ If the site is redeveloped, the septic systems and associated leach fields/and/or
- 17 dry wells should be properly abandoned in accordance with County regulations
- 18 and the recommendations of a geotechnical engineer.
- 19 ○ It is PG&E's responsibility to perform a soil investigation and cleanup if any of the
- 20 pole-mounted transformers leaked PCBs.
- 21 ○ Abandonment of the idle gas well may be warranted, especially if there is a
- 22 change in land use designation.
- 23
- 24 ● *WKA. Debris Removal Observations, Yolo Flyway Farms Ranch Property, Yolo County, CA.*
- 25 *March 19, 2008.* This letter (WKA 2008b) documented observed site conditions after
- 26 excavation, separation, and partial removal of the debris piles from the property. WKA
- 27 observed no visual indications of obvious hazardous materials contamination or items
- 28 removed from the debris pile that would cause concern. Therefore WKA concluded that
- 29 cleanup of the former debris pile would be sufficient in addressing the potential for
- 30 adversely impacting underlying soil conditions. Due to the lack of staining, no further
- 31 investigation was recommended.

32 **VIII.2 Discussion of Impacts**

33 **a) Create a significant hazard to the public or the environment through the routine**

34 **transport, use, or disposal of hazardous materials?**

35 Project construction would involve grading of fallow agricultural land to construct open water
36 channels, marsh, and riparian habitat. Construction equipment typically uses only a minor
37 amount of hazardous materials, primarily motor vehicle fuels and oils. Small volumes of

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1 hazardous materials (fuel, lubricants, and engine oil) would be temporarily used and handled to
2 operate the construction equipment. Refueling of all equipment would be limited to the
3 designated staging area. There is a slight possibility that these materials may be released in
4 accidental spills and result in harm to the environment. Implementation of a SWPPP, as
5 described in the project description and detailed in Section XI, Hydrology and Water Quality,
6 would ensure that the risk of accidental spills and releases into the environment would be
7 minimal, resulting in a **less-than-significant** impact. Potential impacts to water quality from
8 construction-related hazardous materials will be addressed in the hydrology and water quality
9 chapter of the EIR.

10
11 **b) Create a significant hazard to the public or the environment through reasonably**
12 **foreseeable upset and accident conditions involving the release of hazardous materials**
13 **into the environment?**

14 As summarized in the background discussion, above, both sites have been thoroughly evaluated
15 for potential soil and groundwater contamination. Remediation of both sites has been
16 completed and documented. No additional remediation is required.

17
18 If structures are to be removed or wells or septic systems are to be abandoned, they should be
19 properly sealed to avoid potential groundwater contamination. Additional measures have been
20 identified in the Phase I ESAs for the Yolo Ranch and Yolo Flyway Farms properties site to
21 address these impacts. This **potentially significant** issue will be addressed in the EIR.

22
23 **c) Emit hazardous emissions or handle hazardous or acutely hazardous materials,**
24 **substances, or waste within one-quarter mile of an existing or proposed school?**

25 No schools exist within 0.25 mile of the proposed project site therefore the project would have
26 **no impact** and this issue will not be addressed in the EIR.

27
28 **d) Be located on a site which is included on a list of hazardous materials sites compiled**
29 **pursuant to Government Code Section 65962.5 and, as a result, would it create a**
30 **significant hazard to the public or the environment?**

31 As summarized in the Background discussion, above, both sites have been thoroughly evaluated
32 for potential soil and groundwater contamination. Remediation of both sites has been
33 completed and documented. No additional remediation is required. If structures are to be
34 removed or wells or septic systems are to be abandoned, they should be properly sealed to
35 avoid potential groundwater contamination. Project compliance with additional measures
36 identified in the Phase I ESAs for the Yolo Ranch and Yolo Flyway Farms properties site would
37 assure that this impact would be **less than significant** and this issue will not be addressed in the

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1 EIR.

2

3 **e) For a project located within an airport land use plan or, where such a plan has not been**
4 **adopted, within two miles of a public airport or public use airport, would the project**
5 **result in a safety hazard for people residing or working in the project area?**

6 The proposed project is located more than 7 miles from the nearest airport in Rio Vista (a small
7 general aviation municipal airport) and would not affect any airport land use plans. Therefore
8 there would be **no impact** and this issue will not be addressed in the EIR.

9

10 **f) For a project within the vicinity of a private airstrip, would the project result in a safety**
11 **hazard for people residing or working in the project area?**

12 The nearest known private airstrip is located near Clarksburg, roughly 8 miles from the project
13 site. Because of this distance and because the proposed project would not involve construction
14 of any buildings or bring new population to the area, it would have **no impact** on use or safety
15 of private airstrips, nor would the use of such airstrips result in increased hazards to people
16 working in the project area. Therefore, this issue will not be addressed in the EIR.

17

18 **g) Impair implementation of or physically interfere with an adopted emergency response**
19 **plan or emergency evacuation plan?**

20 Because construction activities would be limited to the project site and truck traffic associated
21 with construction would be minimal, emergency response plans would not be affected by the
22 proposed project during or upon completion of construction. Floodwaters in the bypass rise
23 slowly, allowing ample time for any needed evacuation. In addition, although the site is
24 subject to flooding as part of the Yolo Bypass, the project would not interfere with any required
25 evacuation. Neither the Yolo County Emergency Operations Plan (Yolo County, June 2007) nor
26 the Yolo Operational Area Multi-Hazard Mitigation Plan (Yolo County, October 2004) indicate
27 any emergency evacuation routes in the project area. Therefore the project would have **no**
28 **impact** on these plans, and this issue will not be addressed in the EIR.

29

30 **h) Expose people or structures to a significant risk of loss, injury or death involving wildland**
31 **fires, including where wildlands are adjacent to urbanized areas or where residences are**
32 **intermixed with wildlands?**

33 The project site is comprised primarily of tilled agricultural land and neither includes, or is
34 adjacent to any wildlands. There would be **no impact** potential for wildland fires and this issue
35 will not be addressed in the EIR.

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1 **IX Hydrology and Water Quality**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	X			
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	X			
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	X			
f) Otherwise substantially degrade water quality?				X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	X			

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Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

1

2

IX.1 Background

3

Yolo Bypass Hydrology

4 The Yolo Bypass, a critical component of the Sacramento Valley flood control project, was
5 designed to provide flood protection to the City of Sacramento and other nearby cities and
6 farmland by diverting approximately 500,000 cubic feet per second (cfs) of floodwaters through
7 the Fremont and Sacramento weirs, through the Yolo Bypass, and directly to the Sacramento
8 Delta just north of Rio Vista (**Figure 8**) (CDFG 2008). The Bypass is 41 miles long and is bounded
9 on the east and partially on the west by levees constructed by the U.S. Army Corps of Engineers
10 (Corps) (Yolo Basin Foundation 2001). The levees are designed to accommodate the calculated
11 water-surface of the design flow (500,000 cfs) plus an extra buffer for freeboard.

12

13 Once within the Bypass, flows generally move to the eastern side of the Bypass into Tule Canal
14 (the name for the reach north of I-80) and south into the Toe Drain (the reach south of I-80); as
15 inflows continue, the toe drain banks are overtopped, flooding the Bypass and “activating” the
16 floodplain. Within the northern extents of the Tule Canal, flows start to inundate the Bypass
17 just in excess of 1,000 cfs. In the southern reach of the Toe Drain, in the vicinity of the Lisbon
18 Weir, flows start to inundate the Yolo Bypass between 3,000 to 4,000 cfs (cbec Eco Engineering
19 2010). During the period between 1935 and 1999, inundation of the Yolo Bypass occurred
20 approximately 71% of the years (CDFG 2008).

21

Project Site Hydrology

23 The project site is located at the end of the Yolo Bypass at its confluence with the Cache Slough
24 complex, an area referred to as Cache-Yolo Basin, along the northwestern edge of the
25 Sacramento-San Joaquin Delta. The hydrology of the project site is complex, being influenced
26 by different drivers in different times of the year. Since the project is located within the Yolo
27 Bypass, it is subject to regular winter (October through May) flooding as part of the Yolo Bypass
28 flood control project. Outside of the discrete flood events the site hydrology is influenced by
29 more local factors including the Cache-Liberty Slough tidal system to the south and agricultural

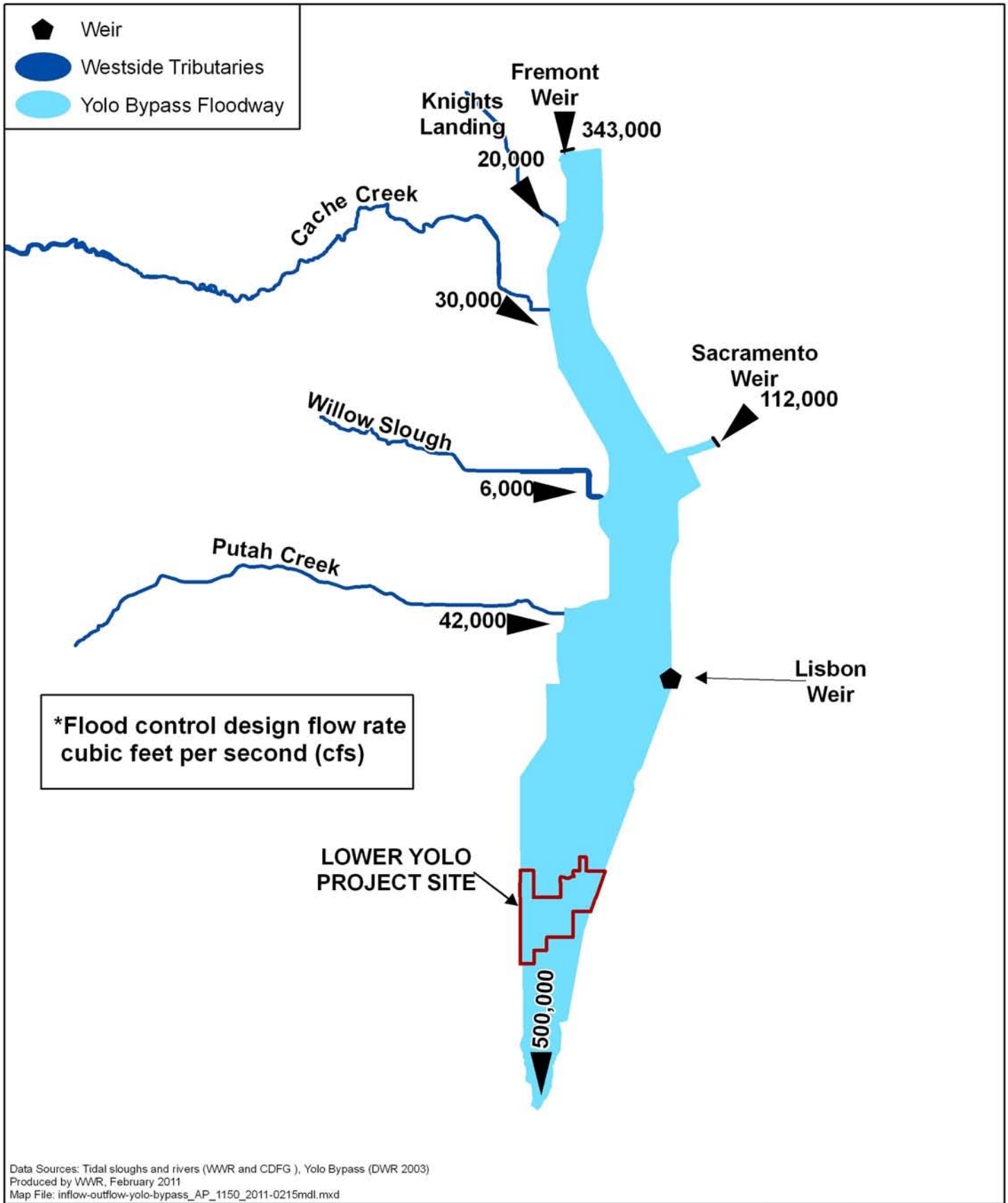
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1 irrigation activities on the project site. The site can also be subject to higher storm-driven water
2 levels coming from the Cache Slough complex to the south when downstream waters are
3 carrying large flows that can back up in the Cache Yolo Basin.

4
5 The project site contains an elaborate network of tidally charged irrigation canals and smaller
6 irrigation and drainage ditches that are used to regulate the site hydrology for agricultural
7 purposes. The project site is connected to the adjacent tidal waterways via a series of water
8 control structures that are operated differently throughout the year based on management
9 objectives. Many of the water control structures are decrepit and do not function properly,
10 thus allowing some limited two-way tidal exchange in certain areas of the site under all
11 operational scenarios. Some low-lying areas along the Stair Step are also subjected to
12 occasional tidal inundation due to overtopping of the riparian levees during extreme spring tide
13 events. Key areas subjected to year-round muted tidal inundation include the Lower end, the
14 Island, and portions of Caboara Pond. Management of the project site hydrology varies
15 seasonally.

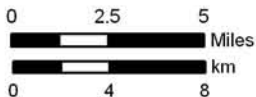
16
17 In the summer irrigation season, the main irrigation canals on the site are tidally surcharged
18 from tidal waterways via tide gates and flashboard risers. Irrigation water drains off the fields
19 via the network of drainage ditches and returns to either the main irrigation source canals, or
20 exits the site via flap gates along the bordering sloughs.

21
22 During the winter and spring (i.e., the rainy season), the hydrologic management of the site is
23 altered, primarily for the purpose of conveying Yolo Bypass flood flows. Water control
24 structures connecting the main irrigation canals to the tidal source waters are opened to allow
25 free movement of water in and out of the site, thus leading to muted tidal conditions
26 throughout certain areas of the site. During the winter, the site is subjected to flood flows
27 within the Bypass as described earlier in this section. Certain areas of the site are also managed
28 for waterfowl habitat during the rainy season including extensive irrigation (flooding).



Data Sources: Tidal sloughs and rivers (WWR and CDFG), Yolo Bypass (DWR 2003)
 Produced by WWR, February 2011
 Map File: inflow-outflow-yolo-bypass_AP_1150_2011-0215mxd

1:316,800 (1" = 5 mi at letter layout)



YOLO BYPASS INFLOW AND OUTFLOW

Lower Yolo Restoration Project
 Yolo County, California
 State and Federal Contractors Water Agency

February 2011

Project No. 1150

Figure 8

LOWER YOLO RESTORATION PROJECT
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1 **Water Quality Setting**

2 Water quality within the lower Yolo Bypass is influenced by a number of factors and source
3 contributions. The quality of water from these various sources is influenced by land use and
4 other activities occurring within the watersheds. Agriculture and urban land uses are common
5 within these watersheds and contribute common water quality contaminants such as
6 herbicides, pesticides, nutrients, bacteria, and metals to the Yolo Bypass (CDFG 2008). More
7 specifically, within the project site, various factors have an influence on local water quality.
8 These factors include:

9

- 10 • **Cattle farming operations:** Addition of organic matter and bacteria from cattle waste
11 and increases in suspended sediment from cattle movements.

- 12
- 13 • **Tide/flap gate operations (exchange with the Delta):** Influx of tidal water from the
14 Delta and release of agricultural return water to the Delta

15

16 The City of Woodland monitored water quality conditions throughout the Yolo Bypass and in
17 various source waters (agricultural drains, western tributaries, and flood overflow from the
18 Fremont and Sacramento weirs) over a one-year period from November 2003 to October 2004
19 to document baseline conditions and understand seasonal fluctuations in water quality (City of
20 Woodland 2005). Water quality criteria were occasionally exceeded during the one-year
21 sampling period for fecal coliform, total dissolved solids and conductivity (both surrogates for
22 salinity), and several metals including aluminum, boron, chromium, and methylmercury.

23

24 **Adjacent Delta**

25 Water quality within the greater Delta ecosystem is affected by four major factors (CALFED
26 2005):

27

- 28 • In-Delta and upstream agricultural and municipal diversions
- 29 • In-Delta and upstream agricultural and municipal discharges
- 30 • Inflows of water of variable quality from the Sacramento River, San Joaquin River, and
31 other tributaries
- 32 • Seawater intrusion from San Francisco Bay

33

34 Variations in water quality throughout the Delta are related to spatial and seasonal variations in
35 the relative contributions of these different sources and controls on water quality (CALFED
36 2005).

37

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1 Near the project site in the Cache Slough complex is the Barker Slough Pumping Plant, located
2 approximately 11.5 miles to the southwest of the project site on Barker Slough (**Figure 2**). The
3 North Bay Aqueduct (NBA), part of the State Water Project (SWP), supplies drinking water to
4 Napa County, the cities of Vallejo and Benicia, and Travis Air Force Base (SCWA 2010). Water
5 quality is monitored regularly at this intake to assure compliance with drinking water standards.

6 **IX.2 Discussion of Impacts**

7 **a) Violate any water quality standards or waste discharge requirements?**

8 There are several water quality issues of concern that affect the beneficial uses of the Yolo
9 Bypass and adjacent Delta ecosystem. With regard to the proposed project, the two most
10 prevalent water quality issues are the production of dissolved organic matter (DOM) and
11 methylmercury (MeHg). Potential project-related impacts to these primary constituents are
12 described below.

13
14 **Dissolved Organic Matter.** One of the primary purposes of the project is to export
15 primary and secondary productivity to the Delta ecosystem to benefit Delta smelt and
16 enhance the local food web. By definition, this increase in organic matter exports would
17 increase the levels of DOM in Delta waters within the project vicinity. Elevated levels of
18 DOM within the Delta due to the proposed project would constitute a significant
19 negative impact to water quality if it prevents drinking water standards from being met
20 at the Barker Slough pump plant. The drinking water standard of 3.0 mg/l dissolved
21 organic carbon is routinely not attained at the Barker Slough intake under current
22 conditions.

23
24 To address concerns that potential tidal wetland restoration projects within the Cache
25 Slough complex could contribute excessive levels of DOM to the Barker Slough intake,
26 potential DOM impacts from various restoration projects were modeled (cbec Eco
27 Engineering 2010). The results indicate that restoration of the Yolo Ranch parcel would
28 not cause a significant increase in DOM levels at the Barker Slough intake due to the
29 hydrologic conditions in the vicinity of the project and distance (11.5 miles) from the
30 intake point. However, this impact would be **potentially significant** and therefore will
31 be evaluated in greater detail in the EIR.

32
33 In addition, high levels of organic matter in the waters around the project site may
34 result in increased rates of uptake and respiration by microbes, thus leading to
35 depressed dissolved oxygen (DO) levels. Low DO events can be harmful to aquatic
36 organisms including fish and benthic macroinvertebrates, constituting a **potentially**
37 **significant** impact, which will be evaluated in the EIR.

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1
2 **Methylmercury:** Overall, implementation of the proposed wetland restoration project
3 should result in a decrease in MeHg production rates within the project area. The
4 proposed habitat type, regularly inundated, mid-to high-elevation tidal marsh is
5 believed to produce generally lower amounts of MeHg than irregularly inundated,
6 seasonal floodplains, which currently dominate the project site (Alpers et al. 2008).
7 Infrequently inundated, high-elevation tidal marsh would be located only around the
8 upland margins of constructed tidal wetland basins and would constitute a minor aerial
9 extent of the restored areas. At present, much of the site is subject to seasonal
10 inundation patterns which have been shown to generate higher methylmercury levels
11 compared to tidal regimes. However, due to the uncertainties in the current state of
12 knowledge regarding MeHg production and transport, this impact would be **potentially**
13 **significant** and will be evaluated in greater detail in the EIR.

14
15 It is possible that construction activities on the project site could cause short-term, temporary
16 impacts to water quality. Earthmoving activities and repair/replacement of water control
17 structures could cause localized increases in suspended sediment concentration and introduce
18 petroleum contaminants (oil, grease, fuel, etc.) into adjacent wetland areas on site and waters
19 of the Delta. The construction methods outlined in the project description section of this
20 NOP/IS include several measures to reduce these potential impacts and a storm water pollution
21 prevention plan (SWPPP) would be developed for the project, however this impact may still be
22 **potentially significant**. Therefore it will be evaluated further in the EIR.

23
24 **b) Substantially deplete groundwater supplies or interfere substantially with groundwater**
25 **recharge such that there would be a net deficit in aquifer volume or a lowering of the**
26 **local groundwater table level (e.g., the production rate of pre-existing nearby wells would**
27 **drop to a level which would not support existing land uses or planned uses for which**
28 **permits have been granted)?**

29 The project would not include any new water wells, pumping of groundwater from existing
30 wells, or development of any features that would impede groundwater recharge. The creation
31 of tidal marsh within the restoration footprint would likely cause an increase in local
32 groundwater levels due to the introduction of tidal waters to large portions of the site.
33 Management of areas on the project site, outside of the restoration footprint, would likely
34 remain as irrigated agriculture, thus resulting in no appreciable change in hydrology following
35 project implementation. This impact would be **less than significant** and therefore will not be
36 evaluated further in the EIR.

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1 **c) Substantially alter the existing drainage pattern of the site or area, including through the**
2 **alteration of the course of a stream or river, in a manner which would result in substantial**
3 **erosion or siltation on- or off-site?**

4 The proposed project would involve restoring tidal action to the site through excavation of tidal
5 marsh basins and channels and reconnecting these features to the tidal waters of the Delta.
6 This project would therefore involve a substantial change in the drainage pattern of the site.
7 The restored tidal marsh areas would behave similarly to other tidal marsh areas within the
8 Delta in terms of sediment and organic matter flux. One key target outcome of the restored
9 tidal wetlands is to promote establishment of emergent wetland vegetation, which in the
10 freshwater Delta would include extensive tule marsh and rush marsh. Wetlands typically retain
11 rather than erode sediments and some sedimentation from natural sediment transport through
12 the Yolo Bypass would be expected to take place. A minor amount of erosion in constructed
13 tidal marsh channel areas would be expected as part of the project, but quantities are expected
14 to be small. Therefore, this impact is **less than significant** and will not be evaluated further in
15 the EIR.

16
17 **d) Substantially alter the existing drainage pattern of the site or area, including through the**
18 **alteration of the course of a stream or river, or substantially increase the rate or amount**
19 **of surface runoff in a manner which would result in flooding on- or off-site?**

20 As described in Item c, above, this project would involve a substantial change in the drainage
21 pattern of the site through the creation of tidal marsh and reconnection of these restored areas
22 with the adjacent Delta system. The **potentially significant** issue of flooding on or off-site will
23 be evaluated further in the EIR. Preliminary hydraulic modeling results indicate a negligible
24 impact to flood flows from project construction. Additional hydraulic modeling will be
25 conducted and included in the EIR to fully evaluate any potential impacts to flood flows in the
26 Yolo Bypass associated with project construction.

27
28 **e) Create or contribute runoff water which would exceed the capacity of existing or planned**
29 **stormwater drainage systems or provide substantial additional sources of polluted**
30 **runoff?**

31 There are no existing or planned stormwater drainage systems on the project site. The new
32 tidal marsh channel networks would be designed to adequately convey the tidal prism of the
33 restored areas and would not lead to muting or water backlog.

34
35 As described in Item a, above, project impact to DOM and MeHg production and export from
36 the restored wetlands will be evaluated in the EIR. Construction-related impacts to water

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1 quality would be minimized by implementing the avoidance measures listed in the project
2 description; however, this **potentially significant** impact will be evaluated further in the EIR.

3
4 **f) Otherwise substantially degrade water quality?**

5 All potential impacts to water quality are described under item a, above. The project would not
6 contribute to any water other quality constituents of concern that currently cause impairment
7 to waters of the Yolo Bypass and Delta, and could in fact help to reduce the level of
8 contamination from agricultural sources. **No impact** would occur and this issue will not be
9 further addressed in the EIR.

10
11 **g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard**
12 **Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

13 No housing is planned as part of this project; therefore, **no impact** would occur and this issue
14 will not be evaluated further in the EIR.

15
16 **h) Place within a 100-year flood hazard area structures which would impede or redirect**
17 **flood flows?**

18 The project involves constructing a new toe berm along the western Yolo Bypass levee and
19 temporary soil stockpiles within the restricted height levee around the ranch compound. This
20 could have a **potentially significant** effect on flows in the Yolo Bypass. Preliminary hydraulic
21 modeling results indicate a negligible impact to flood levels from project construction.

22 Additional hydraulic modeling will be conducted and included in the EIR to fully evaluate any
23 potential impacts to flood flows in the Yolo Bypass associated with this toe berm.

24
25 As described in the project description, following each construction season, any temporary
26 ditch blocks or water filled bladders installed throughout the site would be removed to allow
27 unimpeded passage of Yolo Bypass flood flows. Therefore, these project construction activities
28 would have no potential for impacting flood flows, and will not be evaluated in the EIR.

29
30 **i) Expose people or structures to a significant risk of loss, injury or death involving flooding,**
31 **including flooding as a result of the failure of a levee or dam?**

32 No permanent occupied structures or increased public access over current levels are planned
33 for the project site. Construction of the toe berm along the western Yolo Bypass Levee would
34 reduce the risk of levee failure, thereby reducing the chance that people or structures outside
35 the Yolo Bypass would be impacted by flooding. Therefore, the project would have **no impact**
36 and this issue will not be evaluated further in the EIR.

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- 1 **j) Inundation by seiche, tsunami, or mudflow?**
- 2 No permanent occupied structures or increased public access over current levels are planned
- 3 for the project site. The proposed project would not increase the risk of damage by these
- 4 events to existing communities or structures. Therefore, the project would have ***no impact*** and
- 5 this issue will not be evaluated further in the EIR.

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1 **X *Land Use and Planning***

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X			
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			X	

3

4 **X.1 Background**

5 **Yolo County General Plan**

6 The entire site is designated Agriculture (AG), with Delta Protection Overlay (DPO) in the 2030
7 Yolo County General Plan (County of Yolo 2009). Agriculture (AG) includes the full range of
8 cultivated agriculture, such as row crops, orchards, vineyards, dry land farming, livestock
9 grazing, forest products, horticulture, floriculture, apiaries, confined animal facilities and
10 equestrian facilities. It also includes agricultural industrial uses (e.g., agricultural research,
11 processing and storage; supply; service; crop dusting; agricultural chemical and equipment
12 sales; surface mining; etc.) as well as agricultural commercial uses (e.g., roadside stands, “Yolo
13 Stores,” wineries), farm-based tourism (e.g., u-pick, dude ranches, lodging), horseshows,
14 rodeos, crop-based seasonal events, ancillary restaurants and/or stores serving rural areas.
15 Agriculture also includes farm worker housing, surface mining, and incidental habitat (Yolo
16 County Countywide General Plan, Land Use Element, p. LU-13).

17

18 Delta Protection Overlay (DPO) applies to the State designated “primary zone” of the
19 Sacramento-San Joaquin Delta, as defined in the Delta Protection Act. Land uses consistent with
20 the base designation and the Delta Protection Commission’s Land Use and Resource
21 Management Plan (LURMP) are allowed. The plan was adopted by the State in 1995 for the
22 purpose of providing direction to local jurisdictions in the Delta region on land use decisions.
23 The Plan addresses the environment, utilities and infrastructure, land use, agriculture, water,

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1 recreation and access, levees and boater safety. The LURMP was adopted by the County as a
2 General Plan amendment on March 18, 1997 by Resolution No. 97-34. The State adopted a
3 revised Draft Management Plan on February 25, 2010 (Delta Protection Commission 2010). The
4 County is required to review its General Plan for consistency and make amendments as
5 necessary to bring it into conformance with this General Plan.

6
7 **Zoning**

8 Title 8 (Land Development and Zoning) of the Yolo County Code contains the primary land
9 development regulations of the County, including the Zoning Code (County of Yolo 2008). These
10 regulations implement the General Plan and must be consistent. Inconsistencies between the
11 two documents must be resolved in favor of the General Plan. Nearly all the site (with the
12 exception of the Stair-Step border and the area immediately adjacent to the Deepwater
13 Channel) is zoned Agricultural Preserve (AP) by the County's Zoning Ordinance. The remaining
14 peripheral areas of the site are zoned General Agriculture (A-1).

15
16 Permitted land uses under the A-1 and A-P zoning include a wide range of agricultural uses,
17 with the exception of dairies, stockyards, slaughterhouses, hog farms, fertilizer works, or plants
18 for the reduction of animal matter. Of specific relevance to this project is the permitted use of
19 privately owned reservoirs and/or water retention basins, with associated on-site water
20 transmission facilities, provided that such reservoir or retention facilities are found to have a
21 potential to provide flood control, fire suppression, water supply, wildlife habitat improvement,
22 or groundwater recharge or enhancement benefits (Zoning Ordinance, Section 8-2-.03(j)).

23 **X.2 Discussion of Impacts**

24 **a) Physically divide an established community?**

25 The project site is located in a rural area. The project would involve grading of portions of the
26 current agriculturally used project site to construct open water channels, marsh, and riparian
27 habitat. These uses would be compatible with the surrounding agricultural uses. In addition, the
28 project site is separated from other agricultural lands to the east by the Sacramento Deepwater
29 Channel. Therefore project would have **no impact** with respect to dividing an established
30 community. This issue will not be further evaluated in the EIR.

31
32 **b) Conflict with any applicable land use plan, policy, or regulation of an agency with**
33 **jurisdiction over the project (including, but not limited to the general plan, specific plan,**
34 **local coastal program, or zoning ordinance) adopted for the purpose of avoiding or**
35 **mitigating an environmental effect?**

36 The project site has zoning designations of Agricultural Preserve and General Agriculture. As
37 described in Item II-a under Agriculture and Forest Resources, implementation of the project

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1 would result in the permanent conversion of 1,280 acres of agricultural land to wetlands and a
2 change in management practices on 650 additional acres. This conversion and modification of
3 agricultural lands could have **potentially significant impacts** with respect to consistency with
4 land use plans, policies, or regulations. Project compliance with the County’s General Plan and
5 other County land use policies and the Delta Protection Commission’s Delta Protection Land
6 Use and Resource Management Plan will be further assessed in the EIR.

7

8 **c) Conflict with any applicable habitat conservation plan or natural community conservation**
9 **plan?**

10 The proposed Yolo County HCP/NCCP and BDCP HCP/NCCP are still in development; therefore
11 the provisions of these plans and areas of the proposed project site that would be covered by
12 the plans are unknown and speculative. It is likely that some, or possibly all, of the proposed
13 project site may be located within the Yolo HCP/NCCP and/or BDCP plan areas. To date, the
14 goals and objectives of the proposed project are consistent with both regional plan documents.
15 The primary goals of the project are to enhance regional food web productivity in support of
16 Delta Smelt recovery and to provide rearing habitats for out-migrating salmonids utilizing the
17 Yolo Bypass. The secondary goals of the project are to support a broad range of other aquatic
18 and wetland-dependent species and to provide ecosystem functions of the Delta freshwater
19 tidal marsh – floodplain – seasonal wetland – lowland grassland interfaces. Therefore the
20 project would be in conformance with the anticipated general goals of the NCCP and HCP. This
21 impact would be **less than significant** and therefore will not be further evaluated in the EIR.

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1 **XI Mineral Resources**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Result in the loss or availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

3

4 **XI.1 Background**

5 The two primary mineral resources in the project vicinity are mined aggregate and natural gas.
6 The 2030 Countywide General Plan for Yolo County (County of Yolo 2009) indicates a portion of
7 the Millar natural gas field occurring in the northwest corner of the project site. The presence
8 of this gas field is also apparent from the 21 abandoned (i.e., plugged and idled) natural gas
9 wells within the project boundary. Five of these gas wells were in production and the last well
10 on the project site stopped producing in 1995. The last exploratory well was drilled in 2005, but
11 no gas was extracted and the well was subsequently plugged and abandoned (DOC 2010;
12 DOGGR staff, pers. comm.). Due to the large number of abandoned wells on the site, and lack
13 of any currently operating wells, the natural gas reserves within the project boundary are
14 anticipated to be minimal.

15 **XI.2 Discussion of Impacts**

16 **a) Result in the loss or availability of a known mineral resource that would be of value to the**
17 **region and the residents of the state?**

18 As described above in the background section, a mapped gas field exists in the northwest
19 corner of the project site. However, due to the history of gas mining on the project site, as
20 evidenced by the large number of abandoned wells, the gas reserves within the project site are
21 presumed to be minimal. The applicant purchased the mineral rights to the Yolo Ranch
22 property at the time they purchased the property itself. Therefore there would be no potential
23 conflict of the project with any potential mineral extraction project. In addition, the footprint of
24 project-related restoration activities does not overlap with the mapped gas field. The impact
25 would therefore be **less than significant** and will not be discussed further in the EIR.

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1 **b) Result in the loss of availability of a locally important mineral resource recovery site**
2 **delineated on a local general plan, specific plan or other land use plan?**

3 The project site is not located within a mineral resource recovery site. As noted above, the 2030
4 Countywide General Plan for Yolo County (County of Yolo 2009) indicates a portion of the Millar
5 natural gas field occurring in the northwest corner of the project site. As discussed above, the
6 project's impact to this resource would be ***less than significant*** and will not be discussed
7 further in the EIR.

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1 **XII** **Noise**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

3

4 **XII.1** **Background**

5 **Regulations**

6 *Yolo County Code, Title 10. Environment.* Chapters 3 and 4 outline the County’s in-channel and
7 off-channel mining standards. According to the in-channel maintenance mining standards, noise
8 levels are not permitted to exceed an average noise level equivalent of 80 dBA Leq measured at
9 the outermost boundaries of the parcel being excavated. In addition, noise levels may not
10 exceed an average noise level equivalent of 60 dBA Leq at any nearby residences or other
11 noise-sensitive land uses, unless emergency conditions require otherwise as determined by the
12 Director. Furthermore, the chapter also suggests that vegetated buffers be placed between
13 restored habitat areas and adjoining farmland to, among other things, reduce the effects of

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1 noise generated by agricultural operations on wildlife and riparian vegetation.

2

3 The County's Off-Channel Surface Mining Standards state that from 6:00 a.m. to 6:00 p.m.,
4 noise levels are not permitted to exceed an average noise level equivalent of 80 dBA Leq
5 measured at the property boundaries of the site, and noise levels shall not exceed an average
6 noise level equivalent of 60 dBA Leq for any nearby off-site residences or other noise-sensitive
7 land uses. Additionally, noise levels shall not exceed an average noise level equivalent of 65
8 dBA Leq measured at the property boundaries of the site between 6:00 p.m. and 6:00 a.m.
9 Further, at no time shall noise levels exceed a community noise equivalent level (CNEL) of 60
10 dBA for any existing residence or other noise-sensitive land use. (14 Yolo County, 2008. Yolo
11 County Code). Under this ordinance, an existing residence shall be considered the property line
12 of any residentially zoned area or, in the case of agricultural land, any occupied off-site
13 residential structures. Although it is unclear if this Ordinance applies to the proposed project
14 grading, this NOP/IS uses its specifications as guidance for determining impact significance.

15

16 Chapter 4 also mandates that operators provide acoustical analysis for future truck and traffic
17 noise associated with the individual operations along County roadways identified as
18 experiencing significant impacts due to increased traffic noise.

19

20 Chapter 8 reiterates the noise standards of off-channel mining as also being applicable to
21 agricultural mining and reclamation. The chapter further requires that soil and/or material
22 stockpiles associated with agricultural mining operations must be located a minimum of 500
23 feet from public rights-of-way, public recreation areas, and off-site residences, unless alternate
24 measures to reduce potential noise impacts are developed and implemented.

25

26 *2030 Countywide General Plan for Yolo County.* The following is a list of relevant General Plan
27 goals, policies, and actions related to noise:

28

29 *Health and Safety Element*

- 30 • Policy HS-7.1: Ensure that existing and planned land uses are compatible with the
31 current and projected noise environment.
- 32 • Policy HS-7.2: Ensure the compatibility of permitted land use activities within the
33 Primary Delta Zone with applicable noise policies of the Land Use and Resource
34 Management Plan of the Delta Protection Commission.
- 35 • Policy HS-7.3: Protect important agricultural, commercial, industrial, and transportation
36 uses from encroachment by land uses sensitive to noise and air quality impacts.
- 37 • Policy HS-7.5: Minimize the impact of noise from transportation sources including roads,

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1 rail lines, and airports on nearby sensitive land uses.

- 2 • Action HS-A61: Adopt a comprehensive Noise Ordinance that includes the following
3 components:
- 4 • Standards for acceptable exterior and interior noise levels, their applicability
5 and any specific exceptions to those standards.
 - 6 • Guidelines and technical requirements for noise measurements and
7 acoustical studies to determine conformance with provisions of the
8 ordinance.
 - 9 • Standards for construction equipment and noise-emitting construction
10 activities.
 - 11 • Regulations for the noise generated by events, including truck loading and
12 unloading, operation of construction equipment, and amplified music. (Policy
13 HS-7.1, Policy HS-7.4, Policy HS-7.5)
- 14 • Action HS-A63: Review proposed development projects for compatibility with
15 surrounding and planned uses in accordance with the Noise Compatibility Guidelines;
16 however these guidelines shall not be applied to outdoor activity areas nor shall they be
17 used to prohibit or preclude otherwise allowed density and intensity of development.
18 (Policy HS-7, Policy HS-7.4)
- 19 • Action HS-A64: Require the preparation of a noise analysis/acoustical study, including
20 recommendations for attenuation, for all proposed projects which may result in
21 potentially significant noise impacts to nearby sensitive land uses. (Policy HS-7.1, Policy
22 HS-7.4)
- 23 • Action HS-A71: Designate and maintain established truck routes where noise conflicts
24 with land uses are least likely to occur. (Policy HS-7.1, Policy HS-7.5)

25 **XII.2 Discussion of Impacts**

26 **a) Exposure of persons to or generation of noise levels in excess of standards established in**
27 **the local general plan or noise ordinance, or applicable standards of other agencies?**

28 Construction of the project would temporarily increase noise in the vicinity of the project site.
29 Noise increases would result from on-site construction activities. Scrapers typically generate 83-
30 91 dBA at 50 feet, while haul trucks generate 83-94 dBA and loaders generate about 80-85 dBA
31 at this distance (Bolt et al. 1987). Potential sensitive receptors could include a very few
32 individuals who may reside on the ranch compound in the northwest corner of the project site
33 and at the three or fewer farm residences that are located within one mile west of the Yolo
34 Bypass levee; the project vicinity is predominantly agricultural lands with a very low residential
35 density. Much of the noise-generating activity would be interior to the Yolo Bypass levees that
36 function partially to shield noise from areas outside the Yolo Bypass. Work atop the Yolo Bypass

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1 levee crest road would not gain that noise shielding; such activities could include soils transport
2 for toe berm construction. Grading of the upper toe berm would also be conducted from near
3 the levee crest. Short-term construction noise associated with the grading activities would be
4 similar to existing noise associated with ongoing agricultural activities in the adjacent areas.
5 During construction, noise levels are expected to remain well below these thresholds of
6 significance. After construction is complete, noise levels would drop to existing levels.
7 Construction noise may exceed criteria set forth in the County's Surface Mining Standards at
8 the project boundaries when work is being done near those areas. Offsite project noise levels
9 would be reduced by the levees surrounding much of the site and would be unlikely to exceed
10 60dBA at any off-site receptor. The on-site house would be under the control of the applicant
11 and would therefore not be considered a sensitive receptor. The small inholding parcel within
12 the ranch compound, based on current knowledge, does not contain any residences that could
13 be potentially impacted by construction noise. The three or fewer farm residences within one
14 mile west of the project site are considered too far to be subject to noise levels in exceedance
15 of the County standards. Therefore this impact would be **less than significant** and will not be
16 evaluated in the EIR.

17

18 **b) Exposure of persons to or generation of excessive ground borne vibration or ground**
19 **borne noise levels?**

20 The proposed project earthmoving would not involve pile driving, blasting, or other vibration-
21 generating activities. Proposed earth-moving machinery operating on the site would cause
22 minor levels of vibration that would not be felt off-site. Therefore, generate ground borne
23 vibration would be **less than significant**.

24

25 **c) A substantial permanent increase in ambient noise levels in the project vicinity above**
26 **levels existing without the project?**

27 The project would create a lightly managed wetland with continuation of agricultural uses in
28 upland areas. No new project features of the project would create long-term noise and there
29 would be **no impact** on long-term noise. This issue will not be evaluated further in the EIR.

30

31 **d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity**
32 **above levels existing without the project?**

33 See response to item a), above. This impact would be **less than significant** and therefore will
34 not be addressed in the EIR.

35

36 **e) For a project located within an airport land use plan or, where such a plan has not been**
37 **adopted, within two miles of a public airport or public use airport, would the project**

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1 **expose people residing or working in the project area to excessive noise levels?**

2 The project would be located approximately 7 miles from the nearest airport and is not within
3 an airport land use plan. Therefore the project would have ***no impact*** associated with aircraft
4 noise. This issue will not be evaluated further in the EIR.

5

6 **f) For a project within the vicinity of a private airstrip, would the project expose people**
7 **residing or working in the project area to excessive noise levels?**

8 The project is not located in the vicinity of a private airstrip and would not expose residents to
9 excessive noise from aircraft. Therefore the project would have ***no impact*** associated with
10 aircraft noise. This issue will not be evaluated further in the EIR.

XIII Population and Housing

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

XIII.1 Background

There is one ranch house on the project site. The project is located in a rural agricultural area; other scattered ranch houses are located throughout the project vicinity.

XIII.2 Discussion of Impacts

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project is limited to creation of a wetland in an agricultural area and would not involve any activities that would induce population growth, either directly or indirectly. Therefore, the project would have *no impact* and this issue will not be evaluated further in the EIR.

b, c) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The existing ranch house on the site would be retained with the project, as would much of the site’s agricultural land. Therefore, no housing or population would be displaced and the project would have *no impact* on housing. This issue will not be evaluated further in the EIR.

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1 **XIV Public Services**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other Public Facilities?			X	

3

4 **XIV.1 Background**

5 The project site is in the No Man’s Land Fire Protection District, which includes 25,000 acres
6 with a population of 290. Fire service for the District is contracted through the City of Davis, and
7 provided from City of Davis staff and vehicles. The City of Davis is located approximately 14
8 miles north of the project site.

9

10 Police services are provided through the Yolo County Sherriff’s Department, headquartered in
11 the City of Woodland.

12 **XIV.2 Discussion of Impacts**

13 **a) Would the project result in substantial adverse physical impacts associated with the**
14 **provision of new or physically altered governmental facilities, need for new or physically**
15 **altered governmental facilities, the construction of which could cause significant**
16 **environmental impacts, in order to maintain acceptable service ratios, response times or**
17 **other performance objectives for any of the public services?**

18 The proposed project is a habitat restoration project; it would not result in any new or
19 physically altered government facilities, nor would it result in an increased demand for public

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1 services because it would not add population or utilize County services other than vector
2 control. Therefore, the project would have ***no impact*** to these public services and this issue will
3 not be further evaluated in the EIR.

4
5 With respect to vector control, currently the hydrologic management of the project site results
6 in large expanses of shallow ponded, vegetated areas that hold water for extended periods of
7 time. The areas experiencing these conditions can produce large quantities of mosquitoes, thus
8 requiring regular monitoring and treatment by the Sacramento-Yolo Mosquito and Vector
9 Control District (MVCD). Following project construction, areas restored to tidal marsh would
10 experience regular tidal flushing, thus reducing the potential for mosquito production over
11 current levels. No new hydrologically isolated areas with a potential to produce mosquitoes
12 would be created as part of the proposed project. Upland transition zones would be graded to
13 allow proper drainage in these areas. The project would maintain access to tidal marsh edges to
14 allow for surveillance and treatment of restored areas, should it ever be needed. The
15 Sacramento-Yolo MVCD has been informed of this project and they have determined that
16 project implementation would likely result in reduced mosquito production over current levels
17 at the project site (Marty Scholl, Sac-Yolo Mosquito and Vector Control District, Pers. Comm.,
18 10/13/2010). Therefore, the project impact would be ***less than significant*** and this issue will
19 not be addressed in the EIR.

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XV Recreation

	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	X			
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				X

XV.1 Background

The Yolo Flyway Farms property has been managed as a private waterfowl-hunting club, known also as Yolo Flyway Farms Club, for nearly 67 years. As with many duck hunting clubs located in the Yolo Bypass, use of the Yolo Flyway Farms club is limited to paying members and their guests. The current active membership number is not known. The property is leased for cattle grazing during the late spring and summer months, and has in the past been flooded during the winter to improve and expand waterfowl hunting. Beginning in 2010, the property is no longer winter flooded but will continue to be leased for waterfowl hunting (Charles Tyson, pers. comm.). Duck hunting also occurs in several areas on the Yolo Ranch property including the areas known as the Duck Pond, the Island, and Caboara Pond (**Figure 3**). Hunting on the Yolo Ranch property is by permission only and is not managed as a private hunting club.

Although the previously extensive swamps have been largely reclaimed, ponded water in the Yolo Bypass still attracts many ducks and geese moving along the Pacific Flyway. The drainage ditches along fields and pasture, and canals that parallel the levees, also provide habitat for quail and pheasant.

The Yolo Ranch site is currently in agricultural use and includes no active recreational facilities. Public use of the Yolo Ranch site for recreational purposes is currently prohibited.

Recreation uses near the project site include fishing and other boating activities within the adjacent navigable tidal waterways.

1 **XV.2 Discussion of Impacts**

- 2 **a) Would the project increase the use of existing neighborhood and regional parks or other**
3 **recreational facilities such that substantial physical deterioration of the facility would**
4 **occur or be accelerated?**

5 The project would not result in an increased use of existing parks or other recreational facilities.
6 The project does not include constructing or expanding existing recreational facilities.
7 The project would eliminate the existing, private waterfowl-hunting use of the Yolo Flyway
8 Farms parcel. Given the extensive available waterfowl-hunting sites available in the Yolo Bypass
9 and Delta areas, this loss of a private recreational opportunity would be **less than significant**.

10
11 There may be minor and temporary impacts to recreational fishing and boating in adjacent tidal
12 waterways, due to visual and noise disturbances related to construction activities. However,
13 there would be no physical impediments to fishing or navigation access in existing tidal
14 waterways due to construction of the restoration elements, therefore resulting in a less-than-
15 significant impact. Following construction, the fishing and boating community would have
16 access to the tidal channels on the project site due to the public navigation easement present
17 on all unobstructed tidal waterways, thus increasing public recreational opportunities in the
18 area. However, if excavated materials are transported off-site for re-use, there could be
19 impacts to recreational boating activities. Barge traffic - potentially on the order of 500 round
20 trips of multiple barge “trains” throughout the project construction period – could disrupt
21 normal recreational boat use in waters along the barge route, and the presence of a barge at
22 the proposed loading location in the Toe Drain could potentially obstruct navigation in this area
23 during loading operations. These impacts would be **potentially significant** and will be
24 addressed in the EIR.

- 25
26 **b) Does the project include recreational facilities or require the construction or expansion of**
27 **recreational facilities, which might have an adverse physical effect on the environment?**

28 The project would neither include recreational facilities nor would require their construction or
29 expansion. Therefore the project would have **no impact** and this impact will not be evaluated
30 further in the EIR.

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1 **XVI Transportation/Traffic**

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Exceed the capacity of the existing circulation system, based on applicable measures of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b) Conflict with an applicable congestion management program, including but not limited to, level of service standards and travel demand measures and other standards established by the county congestion management agency for designated roads or highways?			X	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e) Result in inadequate emergency access?				X
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

3

4

XVI.1 Background

5

6

7

8

9

Vehicular access to the site is provided from State Highway 113 via a number of major roadways in the Dixon and Davis areas. Local access is via Levee Road and Delhi Road, both of which are two-lane paved roads. Onsite roadway networks are comprised of unpaved farm roads. Levee Road is shown on maps as connecting with Liberty Island Road to the south, but that connection is blocked by a locked gate on Levee Road at Lookout Slough. Traffic in the

1 project area is very light and comprised primarily of farm vehicles, local residents' traffic, and
2 minor recreational traffic.

3

4 Water-borne traffic associated with recreational boating occurs on the Toe Drain, Stair Step,
5 Liberty Cut, Shag Slough, and Prospect Slough near the project site as well as on other sloughs
6 and waterways in the Delta. Commercial shipping takes place in the major waters of the Delta
7 including the Sacramento River, Sacramento Deep water Ship Channel, and the San Joaquin
8 River.

9 **XVI.2 Discussion of Impacts**

- 10 **a) Exceed the capacity of the existing circulation system, based on applicable measures of**
11 **effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account**
12 **all relevant components of the circulation system, including but not limited to**
13 **intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass**
14 **transit?**

15 During construction, the movement of crews, and equipment would result in temporary
16 increases in traffic on the surrounding roadways. The equipment needed for the construction
17 would make one trip to the site and one trip leaving the site once construction is complete.
18 Construction personnel would access the site daily during construction. Construction
19 equipment fuel delivery would occur periodically. These trips would generate a temporary
20 increase in traffic during construction. Construction of the project is anticipated to occur
21 between the months of May and October 2012 and possibly in May to October 2013. Because
22 the amount of traffic anticipated to be generated by the proposed project on a daily basis is
23 relatively minor (10-30 cars/day), the increase in truck traffic is not expected to be great
24 enough to reduce levels of service (LOS) on local roadways. There would be elevated truck
25 traffic on local roadways when construction vehicles are mobilized (and later demobilized) on
26 the site. This impact would be minimal because it would last only a few days at the start and
27 end of each construction season, and because the truck traffic would be similar to that which
28 occurs during peak agricultural operations at farms and ranches in the area. The project would
29 not significantly increase traffic in the area. Long-term traffic to the site would consist of
30 occasional monitoring or maintenance vehicles. This increase of up to five trips/day would have
31 a **less-than-significant** impact on operations on local roadways and not affect LOS. Therefore
32 this issue will not be evaluated further in the EIR.

33

34 As described in Section XV, Recreation, there could be potentially significant impacts to
35 recreational as well as commercial maritime activities due to barge traffic associated with the
36 off-site soil re-use options. As indicated in item XV-a, these impacts will be addressed in the EIR.

37

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1 **b) Conflict with an applicable congestion management program, including but not limited to,**
2 **level of service standards and travel demand measures and other standards established**
3 **by the county congestion management agency for designated roads or highways?**

4 See response to item a, above. The project would have a *less-than-significant*, short-term,
5 temporary impact on traffic and therefore would not have the potential to conflict with LOS
6 standards or other plans or policies. Thus, this issue will not be evaluated further in the EIR.

7
8 **c) Result in a change in air traffic patterns, including either an increase in traffic levels or a**
9 **change in location that results in substantial safety risks?**

10 The proposed project is not located near any airports and would not affect air traffic patterns.
11 Therefore there is *no impact* and this issue will not be evaluated further in the EIR.

12
13 **d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous**
14 **intersections) or incompatible uses (e.g., farm equipment)?**

15 The proposed project does not have any design features that would result in hazardous traffic
16 conditions. In addition, project trucks and earth-moving equipment would be similar to
17 equipment used in agricultural operations. Therefore it would not conflict with agricultural
18 equipment movement, resulting in a *less-than-significant* impact. This issue will not be
19 evaluated further in the EIR.

20
21 **e) Result in inadequate emergency access?**

22 There would be no change in any roadways providing emergency access as a result of the
23 project. Therefore, it would have *no impact* and this issue will not be evaluated further in the
24 EIR.

25
26 **f) Conflict with adopted policies, plans, or programs supporting alternative transportation**
27 **(e.g., bus turnouts, bicycle racks)?**

28 As described above, the project would involve an intensive temporary construction period in a
29 rural, agricultural area followed by minimal long-term activity. Project vehicles would be stored
30 on the site, and most operations would occur on the site and not on public roadways.

31 Therefore, it would have *no impact* on alternative transportation. This issue will not be
32 evaluated further in the EIR.

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1 ***XVII Utilities and Service Systems***

2

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
h) Degrade or remove existing infrastructure including gas lines and/or wells, power lines, and water lines.			X	

1 **XVII.1 Background**

2 **Power Lines**

3 High-voltage power lines transect the northwestern-most corner of the study area. Lower-
4 voltage lines are also present along the eastern side of Shag Slough, around the ranch
5 compound, and the northeast portion of Yolo Ranch and the eastern section of the Yolo Flyway
6 Farms property.

7
8 **Natural Gas Wells and Transmission Lines**

9 The project site is located along the eastern edge of the Millar Gas Field, a natural gas field that
10 extends along the Solano-Yolo county border (County of Yolo 2009). There are 21 gas wells on
11 the project site, of which two were previously in active production. Currently all gas wells on
12 the project site have been plugged and do not actively produce natural gas resources. The two
13 wells which were at one time in use for natural gas mining likely have distributor gas lines
14 connecting to a main trunk line (DOGGR pers. comm. October 2010). These lines, in addition to
15 main transmission lines on the project site, are owned and managed by Pacific Gas and Electric
16 (PG&E).

17
18 **Water Wells**

19 Only three water wells are known to occur on the Lower Yolo Ranch. All three wells are located
20 on the far northwest corner of the property and are outside of the proposed project footprint.

21 **XVII.2 Discussion of Impacts**

22 **a) Exceed wastewater treatment requirements of the applicable Regional Water Quality**
23 **Control Board?**

24 The proposed project would not create any new demand for utilities or public service systems.
25 Therefore, it would not exceed wastewater requirements, nor would it necessitate expansion of
26 any wastewater treatment facilities or water supply entitlements, resulting in *no impact*.
27 Therefore, this issue will not be further evaluated in the EIR.

28
29 **b) Require or result in the construction of new water or wastewater treatment facilities or**
30 **expansion of existing facilities, the construction of which could cause significant**
31 **environmental effects?**

32 See response to item a, above. *No impact*. This issue will not be further evaluated in the EIR.

33
34 **c) Require or result in the construction of new stormwater drainage facilities or expansion of**
35 **existing facilities, the construction of which could cause significant environmental effects?**

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1 As described in Section IX, Hydrology and Water Quality, the project would alter storm-water
2 drainage ditches on the site and construct new ditches and channels designed specifically to
3 maintain existing levels of stormwater drainage. Even though these new ditches and channels
4 would not adversely affect drainage on the project site and adjacent parcels, as described in
5 Section IX, this impact is **potentially significant** and will be addressed in the Hydrology and
6 Water Quality section of the EIR.

7

8 **d) Have sufficient water supplies available to serve the project from existing entitlements**
9 **and resources, or are new or expanded entitlements needed?**

10 The proposed project would remove 1,950 acres of irrigated pasture, reducing water demands
11 for irrigation. Tidal wetlands would consume water, but would rely on natural tidal action and
12 precipitation only. Therefore, the proposed project would not require new or expanded
13 entitlements. As described in Section IX, Hydrology and Water Quality, the project would
14 retain irrigation flows and drainage for adjacent agricultural parcels, resulting in **no impact**.
15 Therefore, this issue will not be further evaluated in the EIR.

16

17 **e) Result in a determination by the wastewater treatment provider that serves or may serve**
18 **the project that it has adequate capacity to serve the project's projected demand in**
19 **addition to the provider's existing commitments?**

20 See response to a), above. The project would have **no impact** to wastewater treatment because
21 it would not generate any wastewater. Therefore, this issue will not be further evaluated in the
22 EIR.

23

24 **f) Be served by a landfill with insufficient permitted capacity to accommodate the project's**
25 **solid waste disposal needs?**

26 Landfill services would be available at the Hay Road Landfill, off County Highway 113 at 6426
27 Hay Road, located roughly 10 miles from the project site and can accept construction and
28 demolition debris. The landfill has a permitted capacity of about 37,000,000 cubic yards, and, as
29 of 2000, had a remaining capacity of over 30,000,000 cubic yards. The landfill's proposed
30 closure date is 2077 (CalRecycle, Active Landfill Profile for Recology Hay Road Landfill, accessed
31 February, 18, 2011). All waste products produced from restoration construction activities
32 would be transported to these facilities resulting in **no impact**. This issue will not be discussed
33 further in the EIR.

34

35 **g) Comply with federal, state, and local statutes and regulations related to solid waste?**

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1 The project would comply with federal, state, and local regulations related to solid waste. All
2 solid waste disposal would be conducted in a manner pursuant with these regulations. There is
3 **no impact** and this issue will not be addressed in the EIR.

4
5 **h) Degrade or remove existing infrastructure including gas lines and/or wells, power lines,**
6 **and water lines.**

7 No power lines would be impacted by the proposed restoration nor would any water wells on
8 the project site. The proposed restoration footprint would impact abandoned and capped
9 natural gas wells on the Yolo Ranch property. Only two of these wells were in active production
10 at one time and have associated distribution pipelines. PG&E has been contacted to obtain the
11 condition and capping methods for each of these pipelines as well potential transmission lines
12 which could occur on the property. Prior to the start of construction activities, contractors
13 would contact Underground Service Alert to thoroughly inspect and identify gas infrastructure
14 on the property. Communications with the California Department of Oil Gas and Geothermal
15 (DOGGR) have indicated that all natural gas wells have been capped and abandoned (Dan
16 Wermiel, Pers. Comm., October 2010). All measures would be taken to ensure that digging
17 activities would not disrupt active gas lines and wells. Therefore, this impact would be **less than**
18 **significant** and will not require additional evaluation in the EIR.

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1
2

XVIII Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X			
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	X			
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			X	
d) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	X			

3

XVIII.1 Discussion of Impacts

4
5
6
7
8
9
10

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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1 As described in the biological resources section of this NOP/IS, the proposed project, even
2 though it is intended specifically for its biological resource benefits, may have **potentially**
3 **significant impacts** on plants or animals and will be analyzed further in the EIR. Impacts to
4 unknown archaeological, and historic, resources also may be **potentially significant** and will be
5 evaluated in the EIR.

6
7 **b) Does the project have impacts that are individually limited, but cumulatively**
8 **considerable? ("Cumulatively considerable" means that the incremental effects of a**
9 **project are considerable when viewed in connection with the effects of past projects, the**
10 **effects of other current projects, and the effects of probable future projects)?**

11
12 **Background**

13 In evaluating potential environmental impacts, CEQA requires that the project be considered
14 within the context of regional development. While the environmental effects resulting from an
15 individual project may appear less than significant when considered alone, they may be
16 significant when added to impacts caused by other projects in the area. Cumulative impacts are
17 defined by *State CEQA Guidelines* Section 15355 as “two or more individual effects which, when
18 considered together, are considerable, or which compound or increase other environmental
19 impacts.” The cumulative impacts analyses in this document are made on the basis of lists of
20 past, present, and reasonably anticipated future projects, as well as projections of growth that
21 encompass both specific development and other regional land use changes.

22
23 The significance of the project’s contribution to cumulative impacts depends on whether that
24 contribution is “cumulatively considerable”. Cumulatively considerable means that the
25 incremental effects of the project are significant when viewed in the connection with the
26 effects of past projects, other current projects, and probable future projects (*State CEQA*
27 *Guidelines* section 15064(h)(1)). A lead agency may determine in an Initial Study that a project’s
28 contribution to a significant cumulative impact would be rendered less than cumulatively
29 considerable through mitigation measures set forth in a mitigated negative declaration, and
30 thus not significant. In addition, a lead agency may determine that a project’s incremental
31 contribution to a cumulative effect is not cumulatively considerable if the project would comply
32 with the requirements in a previously approved mitigation program that provides specific
33 requirements that would avoid or substantially lessen the cumulative problem projects (*State*
34 *CEQA Guidelines* section 15064(h)(3)). In such cases, the Initial Study must briefly explain how
35 the contribution has been rendered less than cumulatively considerable projects (*State CEQA*
36 *Guidelines* section 15064(h) (2 and 3)).

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1 If there is substantial evidence that, after mitigation or even with compliance with plans or
2 mitigation programs, that the possible effects of a project are still cumulatively considerable, an
3 EIR must be prepared projects (*State CEQA Guidelines* section 15064(h)(3)). *State CEQA*
4 *Guidelines* also state that the mere existence of cumulative impacts caused by other projects
5 alone do not constitute evidence that the proposed project’s incremental effects would be
6 cumulatively considerable projects (*State CEQA Guidelines* section 15064(h)(4)).
7

8 **Cumulative Projects**

9 In order to identify potential cumulative projects and programs, various agencies in the region
10 were consulted: Yolo County, California Department of Water Resources, and member agencies
11 of SFCWA. In particular, several sources were reviewed including the County’s currently
12 proposed projects list, the list of projects being planned as part of the CALFED Ecosystem
13 Restoration Program and its member resource agencies, potential projects identified as part of
14 fulfilling the 8,000-acre restoration requirement contained with the Reasonable and Prudent
15 Alternatives of the U.S. Fish and Wildlife Service Delta Smelt Biological Opinion of December
16 2008 and the National Marine Fisheries Service Salmonid Biological Opinion of June 2009,
17 potential projects identified as part of fulfilling the 65,000-acre restoration requirement
18 currently being considered for incorporation into the BDCP, and the Suisun Marsh Habitat
19 Management, Restoration, and Enhancement Plan.
20

21 The project site lies at the intersection of two regions of the Delta where wetland restoration
22 efforts have taken place and more are contemplated or planned for the future: the Cache
23 Slough Complex and Yolo Bypass (**Figure 2**). The most significant restorations to take place in
24 the region are the natural levee failures of Little Holland Tract (nearly 1,500 acres, 1983 and
25 1992 breaches) and Liberty Island (more than 4,300 acres, 1998 levee failure), both located
26 immediately south of the project site. East across the Sacramento Deep Water Ship Channel is
27 the 1,300-acre Prospect Island tidal restoration, currently in the planning stages by DWR.
28 Immediately south of the site is the 185-acre Kerry Parcel, currently being constructed as a
29 wetland mitigation bank. Just southwest of the project site is 1,700-acre Liberty Farms diked
30 wetlands enhancement project constructed through the NRCS Wetland Reserve Program. At
31 the western end of Lindsey Slough is the Calhoun Cut tidal wetland enhancement project
32 currently being planned by CDFG. The BDCP has identified a 5,000-acre tidal restoration target
33 for the Cache Slough Complex; this project as well as Prospect Island would likely count toward
34 that target.
35

36 Though the 8,000-acre restoration obligation under the two Biological Opinions is in place and
37 the presumed 65,000-acre restoration obligation under BDCP is likely to be agreed upon in the

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1 next year or two approximately, most of the actual projects to meet those obligations are
 2 currently not identified or not well defined. CEQA does not require speculation or consideration
 3 of projects that are not “probable”. Therefore, this section focuses on known probable projects
 4 that could have impacts overlapping those of the project. Specific probable future projects
 5 considered in this analysis are summarized in **Table 2** below.

6
 7 **Table 2. Probable Future Projects Considered in the Cumulative Impacts Assessment**

Project	Location	Acreage	Proposed Project Type and Improvements	Potential Implementation Date
Site-Specific Projects				
Fremont Weir Modifications	Northern end of Yolo Bypass, Yolo County	~21,500	Seasonal floodplain habitat	est. 2015 or later
Knagg’s Ranch	Northern Yolo Bypass, Yolo County	Currently unknown	Seasonal floodplain habitat	est. 2015 or later
Conaway Ranch	North-central Yolo Bypass, Yolo County	~17,000	Seasonal floodplain habitat	est. 2013 or later
Kerry Parcel	Northeast tip of Liberty Island, Yolo County	185	Tidal marsh, floodplain, and uplands	Constructed 2010
Liberty Island Enhancement	Northern Liberty Island, Yolo County	865	Tidal marsh enhancement	est. 2011-2012
Calhoun Cut Enhancement	Lindsey Slough, Solano County	Not stated	Tidal marsh enhancement	est. 2013 or later
Prospect Island North	East side of Sacramento Deep Water Ship Channel	1,320	Tidal marsh and shallow tidal aquatic	est. 2015 or later
Prospect Island South	East side of Sacramento Deep Water Ship Channel	297	Tidal marsh	est. 2015 or later
Dutch Slough	Oakley, Contra Costa County	1,400	Tidal marsh and lowland grasslands	2012
McCormack Williamson Tract	Near Walnut Grove, Sacramento County	1,600	Tidal marsh and shallow tidal aquatic	est. 2013 or later
Hill Slough	North-central Suisun Marsh,	864	Tidal marsh and lowland grassland	est. 2012 or later

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Project	Location	Acreage	Proposed Project Type and Improvements	Potential Implementation Date
	Solano County			
Rush Ranch	North-central Suisun Marsh, Solano County	81	Tidal marsh	est. 2012 or later
BDCP Restoration Opportunity Areas: Regions of Identified Future Restoration Activities, No Site-Specific Projects Unless Described Above				
Cache Slough ROA	Eastern Solano and Southern Yolo County	≥ 5,000	Tidal marsh and shallow tidal aquatic	~ 2015 to 2065
Suisun Marsh ROA	Solano County	≥ 7,000	Tidal marsh and shallow tidal aquatic	~ 2015 to 2065
West Delta ROA	Solano, Sacramento, Contra Costa Counties	≥ 2,100	Tidal marsh and shallow tidal aquatic	~ 2015 to 2065
Cosumnes/Mokelumne River ROA	San Joaquin County	≥ 1,500	Tidal marsh and shallow tidal aquatic	~ 2015 to 2065
East Delta ROA	Sacramento and San Joaquin County	≥ 1,400	Tidal marsh and shallow tidal aquatic	~ 2015 to 2065
South Delta ROA	San Joaquin County	≥ 5,000	Tidal marsh and shallow tidal aquatic	~ 2015 to 2065
All		≥ 5,000	Riparian forest and scrub	~ 2015 to 2065

1

2 Responsible, cooperating, and trustee agencies are requested to review and refine this list of
3 future related/cumulative projects.

4

5 **Cumulative Impacts Assessment**

6 The project could contribute to ***cumulatively significant impacts*** associated with loss of
7 agricultural lands, air quality, biological resources, cultural resources, hydrology/water quality,
8 land use, and recreational resources. The project's contribution to cumulative impacts as well
9 as the overall cumulative impacts to which the projects would contribute will be evaluated in
10 the EIR.

11

12 **c) Does the project have environmental effects that will cause substantial adverse effects on**
13 **human beings, either directly or indirectly?**

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1 As described in the hazards section of this document, human health risks either have been
2 remedied or would be remedied as a part of this project; therefore, these impacts would be
3 ***less than significant*** and would not be addressed further in the EIR.

4

5 **d) Does the project have the potential to achieve short-term environmental goals to the**
6 **disadvantage of long-term environmental goals?**

7 The project is intended to result in long-term improvements in aquatic habitats. As described
8 above, it may have short-term construction-related impacts. It also may result in long-term loss
9 of agricultural lands and terrestrial habitats. These impacts may be ***potentially significant*** and
10 will be assessed in the EIR.

1 **List of Preparers**

2 The following individuals contributed to this report.

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5

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Appendix B

Comments Received on the Notice of Preparation/Initial Study

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Appendix B: Distribution Lists of Notice of Preparation/Initial Study (NOP/IS)

List of Those Entities Receiving Notice of Availability with Web Site Link to NOP/IS

1. Adjacent Property Owners (Sally Bowsbey, Clifford Detar, Albert Lassaga, Selby Mohr, Dennis & Maren Murphy, Frank Pitto, Lynn & Connie Pryor, Gordon & Karen Rasmussen, Charles Tyson, Rodney Williams)
2. American Habitats (Dustin Smith)
3. American Rivers (John Cain)
4. AquAlliance (Barbara Vlamis)
5. Archer & Ficklin, Inc. (Gary Archer)
6. BSK, Inc. (K. Balasek)
7. California Department of Fish and Wildlife (Andrea Boertien, Dave Fleiz, Cory Gray, Jim Starr, Gina Vanklompberg, Carl Wilcox, Dave Zezulak)
8. California Department of Parks and Recreation, Office of Historic Preservation (Milford Wayne Donaldson)
9. California Department of Transportation, Transportation Planning, District 3 (Arthur Murray)
10. California Department of Water Resources (Josh Brown)
11. California Farm Bureau Federation (Paul Wenger)
12. California Native American Heritage Commission (Rob Wood)
13. California Regional Water Quality Control Board (Shyler Anderson, Chris Foe, Patrick Morris)
14. California Sportfishing Protection Alliance (John Beuttler)
15. California State Assembly (Tony Wong)
16. California State Assembly (Mariko Yamada)
17. California State Senate (Lois Wolk)
18. California Water Alliance
19. California Water Impact Network
20. CDM (Wendy Katagi)
21. Center for Collaborative Policy CSUS (Lora Barrett, Dave Ceppos, Sam Magill)
22. Central Valley Flood Protection Board (Butch Hodgkins)
23. City of West Sacramento (Michael Bessette, Dave Shpak, and others)
24. Conaway Ranch (Regina Cherovsky)
25. Defenders of Wildlife, California Office
26. Delta Conservancy (Cindy Messer)
27. Delta Stewardship Council (Joe Grindstaff)
28. Ducks Unlimited (Chris Wilkinson)
29. Environmental Defense Fund (Candice Chow, Ann Hayden)
30. Environmental Water Caucus (David Nesmith)
31. Friends of Swainson's Hawk (Judith Lamare, James Pacht)
32. Gardner, Janes, Nakken, Hugo & Nolan (Robert P. Nakken)
33. Glide in Ranch (Don Stevens)
34. Governor's Office of Planning and Research, State Clearinghouse (Scott Morgan)
35. Hall-Mark Services, Inc. (Gary Moody)
36. Harris Ranch (David Woods)
37. Hatch Mott Macdonald (Tom Gran)
38. Interested Parties (Glen Holstein, Doug Brown, Ann Burris, Chuck Dalldorf, Tim Miramontes, T. Rodrigues, M. Stripling)
39. JB Environmental Communications (Janet Barbieri)
40. Joseph Burke, et al. (Edward Wynne, Jr.)

Appendix B: Distribution Lists of Notice of Preparation/Initial Study (NOP/IS)

41. Lucky Five Farms (Thomas Manizzi)
42. Mound Farms (Selby Mohr)
43. National Marine Fisheries Service (Stephen Hillyer, Howard Brown)
44. Natural Heritage Institute (Tomas Gregory)
45. Natural Resource Conservation Service (Nathan Key)
46. Nature Conservancy (Leo Winternitz)
47. North Delta CARES (Mark Wilson)
48. Northwest Hydraulics (Rob Odell)
49. Office of Congressman Mike Thompson (Elly Fairclough)
50. Planning and Conservation League (Barbara Byrne)
51. Port of West Sacramento (Mike Luken)
52. Ramco Enterprises (Dan Ramos)
53. Reclamation District 108 (Lewis Blair)
54. Reclamation District 150 (Roger Berry)
55. Reclamation District 307
56. Reclamation District 900 (William E. Denton)
57. Reclamation District 999
58. Restore the Delta (Barbara Barrigan-Parrilla)
59. Riverrock (Cam Douglas Fung)
60. S. L. Cattle Company, Inc.
61. Sacramento Area Council of Governments (Mike McKeever)
62. Sacramento-Yolo Port District
63. Sacramento-Yolo Mosquito Vector Control District (Marty Scholl)
64. Sierra Club, Mother Lode Chapter (Bob Schneider)
65. Smith Family Trust (Ronald Smith)
66. Solano County Water Agency (Rich Marovich, David Okita)
67. The Bay Institute (Gary Bobker)
68. Trust for Public Lands
69. Tuleyome (Bob Schneider)
70. United States Army Corps of Engineers (Kathy Dadey, Marc Fugler, Jane M. Hicks, William J. Leady, Tanis Toland)
71. United States Army Corps of Engineers/Reclamation District 2120
72. United States Bureau of Reclamation (J. Goodwin, Ron Milligan)
73. United States Fish and Wildlife Service (Dan Castleberry, Don Cox, Stephen Culberson, Matt Hamman, Maral Kasparian, Jennifer Norris, Lori Renik, Heather Webb)
74. United States Geological Survey, Western Region/Department of Interior
75. University of California, Davis (Kent Brittan, Robert Segar)
76. Westlands Water District (Tom Glover)
77. Wildlands, Inc. (Tom Cannon, Kim Erickson)
78. Wintu Tribe of Northern California (Wade McMaster)
79. Yolo Basin Foundation (Ann Brice, Robin Kulakow)
80. Yolo County Administrators Office (Patrick Blacklock, Petrea Marchand)
81. Yolo County Agricultural Department (John Young)
82. Yolo County Counsel's Office (Phi Pogledich)
83. Yolo County Flood Control and Water Conservation District (Fran Borcalli, Stefan Lorenzato, T. O'Halloran)
84. Yolo County Heritage Foundation (Maria Wong)
85. Yolo County Land Owners Association (Yvonne LeMaitre)

Appendix B: Distribution Lists of Notice of Preparation/Initial Study (NOP/IS)

86. Yolo Flyway Farms (Charles Tyson)
87. Yolo Habitat Joint Powers Agency (Maria Wong)
88. Yolo Land Trust (M. Clark)
89. Yolo Ranch (Herb & Lynell Pollock)
90. Yolo-Solano Air Quality Management District (Matt Ehrhardt)

List of Those Public Entities Receiving Hard Copy of NOP/IS

Federal Government Agencies

- National Marine Fisheries, Southwest Regional Office (Maria Rea)
- United States Army Corps of Engineers, Sacramento District (Nancy Haley)
- United States Environmental Protection Agency, Region 9 (David Smith)
- United States Fish and Wildlife Service, Sacramento Fish & Wildlife Office (Ryan Olah)

State Government Agencies

- California Department of Fish and Wildlife, Region 2, Bay-Delta (Kathy Geary)
- California Department of Parks and Recreation, State Historic Preservation Office (Susan Stratton)
- California Department of Toxic Substances Control
- California Department of Transportation, District 3
- California Department of Water Resources, Valley Flood Protection District (Jay Punia)
- California State Lands Commission (Brian Bugsch)
- Central Valley Regional Water Quality Control Board (Dan Radulescu)
- Native American Heritage Commission
- State Water Resources Control Board (Vicky Whitney)

Local Government Agencies/Other Public Entities

- City of Davis (Ken Hiatt)
- City of West Sacramento (Steve Rkala)
- City of Woodland (Mark Deven)
- Contra Costa County (Catherine Kutsuris)
- Reclamation District 2068 (Mike Hardesty)
- Reclamation District 2093 (Erik Vink)
- Sacramento County (Steve Pedrettu)
- San Joaquin County (Kerry Sullivan)
- Solano County (Bill Emlen)
- Yolo County (John Bencomo)

Appendix B: Comments Received on the Notice of Preparation/Initial Study (NOP/IS)

List of Those Entities Commenting on the NOP/IS

1. **Native American Heritage Commission**
Letter March 16, 2011
2. **California Department of Fish and Game** (now known as California Department of Fish and Wildlife)
Email March 21, 2011
3. **California Department of Conservation**, Division of Land Resource Protection
Letter March 24, 2011
4. **Yolo County Farm Bureau**
Letter/Email March 28, 2011
5. **California Department of Transportation**, District 3, Division of Planning and Local Assistance Office of Transportation Planning
Email March 29, 2011
6. **County of Yolo**, Board of Supervisors
Letter March 29, 2011
7. **Central Valley Flood Protection Board**
Letter March 30, 2011
8. **California Regional Water Quality Control Board**, Central Valley Region
Fax March 30, 2011
9. **Delta Stewardship Council**
Letter March 30, 2011
10. **California Department of Water Resources**
Letter March 30, 2011
11. **Solano County**, Department of Resource Management
Letter March 31, 2011
12. **City of West Sacramento/West Sacramento Area Flood Control Agency**
Email April 1, 2011

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390



March 16, 2011

Curt Schmutte
State and Federal Water Contractors Agency
1121 I Street, Suite 802
Sacramento, CA 95814

RE: SCH# 2011032001 -- Lower Yolo Bypass Restoration Project NOP, Sacramento County

Dear Mr. Schmutte:

The Native American Heritage Commission has reviewed the NOP referenced above. Lack of surface evidence of archeological resources does not preclude their subsurface existence. Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Lead agencies should include in their mitigation plan provisions for the disposition of recovered non-burial associated artifacts, in consultation with culturally affiliated Native Americans. Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Thank you for the opportunity to comment on the Lower Yolo Bypass Restoration Project NOP. If you have any questions, please contact me by email at rw_nahc@pacbell.net.

Sincerely,

A handwritten signature in black ink that reads "Rob Wood".

Rob Wood
Associate Government Program Analyst

CC: State Clearinghouse

Stuart Siegel

From: Schmutte,Curtis [CSchmutte@mwdh2o.com]
Sent: Monday, March 21, 2011 8:30 AM
To: Stuart Siegel
Subject: Fwd: DFG informal comments on Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting

Stuart

Can you make the appropriate change in the document? Thanks. Curt

Begin forwarded message:

From: Jim Starr <JSTARR@dfg.ca.gov>
Date: March 21, 2011 8:22:19 AM PDT
To: "schmutte@sfcwa.org" <schmutte@sfcwa.org>
Subject: **DFG informal comments on Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting**

Mr. Schmutte,

Page 10 and 11; A.8.3.3 Construction of Tidal Channel Networks: In this section of the NOP you describe the channel construction as occurring in Basin X, while the accompanying Figure 4 lists the areas as Network X, DFG recommends that a common term (either Basin or Network) be used to assist the reader in understanding the actions that are being proposed.

This concludes our informal comments on the Notice of Preparation for the Lower Yolo Restoration Project and we look forward to working with you and your staff in the next phases of this project.

If you have any questions please feel free to contact me directly at the contact information listed below.

Jim

Jim Starr
Environmental Program Manager I
209-941-1944 (Office#)
209-948-7800 (Main Office#)
209-946-6355 (Facsimile#)
4001 North Wilson Way, Stockton, CA 95205
jstarr@dfg.ca.gov

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DEPARTMENT OF CONSERVATION

Managing California's Working Lands

DIVISION OF LAND RESOURCE PROTECTION

801 K STREET • MS 18-01 • SACRAMENTO, CALIFORNIA 95814

PHONE 916 / 324-0850 • FAX 916 / 327-3430 • TDD 916 / 324-2555 • WEBSITE conservation.ca.gov



March 24, 2011

VIA EMAIL: schmutte@sfcwa.org

Mr. Curt Schmutte
State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

Subject: Notice of Preparation/Initial Study for a Draft Environmental Impact Report (DEIR) for the Lower Yolo Restoration Project

Dear Mr. Schmutte:

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation/Initial Study (NOP/IS) for the Lower Yolo Restoration Project DEIR. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. We offer the following comments and recommendations with respect to the proposed project's potential impacts on agricultural land and resources.

Project Description:

The site is located on approximately 1,950 acres of a 3,900-acre site at the southern end of the Yolo Bypass near Cache Slough in Yolo County. The site is in active agricultural use and is designated as Agriculture in the Yolo County General Plan. The site is nearly all zoned "A-P" (Agricultural Preserve). The site is under Williamson Act (WA) contracts.

Division Comments

Conversion of Agricultural Lands:

The Project will result in the permanent conversion of 270 acres of Unique Farmland, 540 acres of Grazing lands, and 470 acres of Other lands. An additional 650 acres would have irrigation discontinued and cattle grazing removed from the land as part of project implementation. These permanent conversions of agricultural lands are recognized in the NOP/IS as being a potentially significant impact and cumulative impact, to be addressed in the EIR.

Williamson Act Lands:

The Project site is subject to WA contracts, which are contracts between the landowner and the County. According to the NOP/IS, the contracts state that the property "shall not be used for any purpose other than agricultural use and those uses determined to be compatible with the agricultural use...". The NOP/IS also states that the Project's conflict with the WA contracts would be "less than significant". This conclusion is apparently based on an observation that the WA allows for open space uses, including those proposed as part of the Project. This logic is flawed. The WA *allows* for open space uses, typically through *open space* contracts, not agricultural contracts such as the contracts in place on the subject parcels. These parcels are restricted by the terms of the contracts in place (as cited above), which restrict the use of the land to agricultural uses, not open space uses. The proposed uses represent a "conversion" of the agricultural land to non-agricultural uses (i.e., tidal wetlands) which are neither agricultural nor compatible with agricultural use. These agricultural contracts and their restrictions remain in place on the subject parcels unless non-renewed (a nine-year process) or cancelled (a process requiring County approval).

Conflicts with Existing Zoning:

The NOP/IS fails to address the Project's conflict with the existing zoning of the Project site for agricultural use. The Yolo County General Plan designates the Project site as Agriculture and is zoned as "A-P" (Agricultural Preserve). This designation allows for agriculture, not the proposed tidal wetlands use. The NOP/IS's conclusion that this represents a "less than significant impact" is in error. This needs to be corrected and addressed in the EIR.

Mitigation

In 2009, approximately \$462,133,000 in farm sales¹ was generated in Yolo County. That value demonstrates the significance of agriculture to the economy of Yolo County. The Department's data on land use conversion² shows that Yolo County lost a total of 57,665 acres of Important Farmland from 1984 to 2008, with an annual average loss of 2,621 acres per year. This cumulative loss represents a significant and permanent impact to the agricultural resources of the County and the State, and shows why the remaining agricultural resources in the County should be protected whenever feasible.

The NOP/IS references some Yolo County General Plan policies that address agricultural resources, but fails to include the County Ordinance (Title 8, Sec. 8-2.2416) which is designed to implement the agricultural land policies contained in the

¹ California Agricultural Resource Directory 2010-2011

² CA Department of Conservation Farmland Monitoring and Mapping Program

Mr. Curt Schmutte
March 24, 2011
Page 3 of 3

Yolo County General Plan. The Ordinance requires mitigation for the conversion of agricultural land at a 1:1 ratio through permanent agricultural easements, or a similar mechanism approved by the County.

Although direct conversion of agricultural land is often deemed an unavoidable impact in California Environmental Quality Act (CEQA) analyses, mitigation measures must be considered. The loss of agricultural land represents a permanent reduction in the State's agricultural land resources. As such, the Department recommends permanent agricultural conservation easements on land of at least equal quality and size as partial compensation for the direct loss of agricultural land resulting from the Project, and as required by the County Ordinance above.

Thank you for giving us the opportunity to comment on the NOP/IS for the Lower Yolo Restoration Project. Please provide this Department with a copy of the DEIR, the date(s) of any hearings for this particular action, and any staff reports pertaining to it. If you have questions regarding our comments, or require technical assistance or information on agricultural land conservation, please contact Meri Meraz, Environmental Planner, at 801 K Street, MS 18-01, Sacramento, California 95814, or by phone at (916) 445-9411.

Sincerely,



Dan Otis
Program Manager
Williamson Act Program

cc: Mr. Philip Pogledich, Yolo County Counsel's Office



American Farm Bureau Federation/California Farm Bureau Federation

YOLO COUNTY FARM BUREAU

69 West Kentucky Avenue • P.O. Box 1556, Woodland, California 95776
530-662-6316 • FAX 530-662-8611 • www.yolofarmbureau.org

PRESIDENT
Chuck Dudley
1ST VICE-PRESIDENT
Joe F. Martinez
2ND VICE-PRESIDENT
Fred Manas
SECRETARY/TREASURER
Denise Sagara

Sent via U.S. Mail & E-Mail
schmutte@sfcwa.org

March 28, 2011

Curt Schmutte
State and Federal Contractors Water Agency
1121 L St., Ste. 802
Sacramento, CA 95814

RE: Lower Yolo Bypass Restoration Project
Notice of Preparation of a Draft Environmental Impact Report

Dear Mr. Schmutte:

Farm Bureau is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to work for the protection of agriculture and the rural environment in Yolo County. Farm Bureau supports responsible farming and respects the health and welfare of those in Yolo County. Its membership consists of more than 1,200 farmers and ranchers who live, farm and ranch throughout Yolo County, as well as non-farmers who support the preservation of viable agriculture and the quality of life in the county and its rural communities.

The Yolo County Farm Bureau thanks the Agency for the opportunity to comment on the proposed Lower Yolo Restoration Project.

Williamson Act Impacts

According to the State and Federal Contractor Agency's ("Agency") February 25, 2011 Lower Yolo Restoration Project Initial Study ("Initial Study"), the proposed project would permanently convert approximately 1,950 acres (that is exactly half) of the 3,900-acre property formerly known as "Yolo Ranch" from agricultural use (irrigated pasture, grazing, and hay production) to tidal wetlands habitat.¹

The property in question is currently under an existing Williamson Act contract. In addition, the property is located in an existing Agricultural Preserve in the Yolo Bypass,

¹ See Initial Study at 4, 8, 32.

zoned as Agricultural Preserve (A-P) and for General Agriculture (A-1), in the Primary Zone of the Legal Delta.²

The Environmental Impact Report (“EIR”) must analyze the impacts of conducting this project on contracted land and consider feasible alternatives.

Among the core legislative purposes of the California Land Conservation Act of 1965 (“Williamson Act”) is “the preservation of a maximum amount of the limited supply of agricultural land,” as an objective considered “necessary not only to the maintenance of the agricultural economy of the state, but also for the assurance of adequate, healthful and nutritious food for future residents of this state and nation.”³

“Compatible uses” on parcels maintained in agricultural production and located within an existing agricultural preserve, under an existing Williamson Act (10-year) or Farmland Security Act (20-year) contract, must adhere to the following “principles of compatibility”:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.⁴

The Agency’s Initial Study indicates that the property planned for restoration has, until now, been “entirely in agricultural land use,” specifically “irrigated cattle pasture” and “hay production.”⁵ According to the Initial Study, Williamson contract for the Yolo Ranch property specifies, among other things, that the property “shall not be used for any purpose other than agricultural use and those uses determined to be compatible with the agricultural use of the land within this preserve and subject to contract.”^[6] As noted previously, and as described in the Agency’s Initial Study, the proposed project would convert 1,950 acres—or exactly half of the property—from the existing agricultural use to permanent wetlands and/or tidal marsh. The existing project would, therefore, substantially remove the subject parcel from agricultural use and require compliance with the Yolo County’s William Act regulations and the specific terms of the contract, including the need for possible permit approvals from the County.

² Initial Study at 28, 29, 32, 78, 79.

³ Gov. Code, § 51220, subd. (a).

⁴ Gov. Code, §§ 51201, subd. (e); 51231; 51238; 51238.1, subds. (a), subparts (1) and (2).

⁵ Initial Study at 28.

^[6] Initial Study at 32.

To the extent the Agency's Initial Study describes this apparent conflict as "less than significant," we assume the Agency contemplates following required procedures under the Williamson Act to remove this conflict. In any case, the issue is appropriate for inclusion both in the EIR and as part of the Agency's broader planning efforts.

Agricultural Land Conversion Impacts

As noted above, the proposed project would remove from agricultural production (historically, irrigated pasture, cattle grazing, and hay) some 1,950 acres—or fully half of the total 3,900-acre property formerly known as "Yolo Ranch." This impact is correctly identified in the Initial Study as "potentially significant."

In addition, the Initial Study appropriately identifies as "cumulatively significant impacts" relevant to the proposed project, the cumulative impact of numerous other restoration proposals including:

- a total 8,000 acres of restored habitat under the existing requirements of the United States Fish and Service's Biological Opinion for the State Water Project and Central Valley's operations of the Banks and Jones pumping plants in the South Delta;
- the Bay-Delta Conservation Plan's proposed 5-year target of some 65,000 acres of restored tidal marsh in the Sacramento-San Joaquin River Delta and Suisun Marsh, and of some 30,000 acres of the seasonally inundated floodplain habitat in the Bypass itself;⁶
- Several thousands of acres of other proposed habitat restoration projects on existing agricultural lands elsewhere in the Five-County Delta Region.

Mitigation and avoidance measures for impacts to agricultural resources, for both individual projects and possible related Delta restoration efforts in the future, should be developed in consultation with affected local interests and local governments.

Depending on the circumstances, appropriate mitigation for losses of agricultural land can take various forms including:

- minimization and avoidance, including appropriate siting (e.g., public lands or existing conservation lands before private agricultural land);

⁶ It should be noted, as well, that while the list of "Probable Future Projects Considered in the Cumulative Impacts Assessment" in the "Cumulative Impacts" portion of the Initial Study (pp. 103-104) identifies the BDCP's proposed restoration target for the so-called "Cache Slough ROA" area in Eastern Solano and Southern Yolo County as "≥5,000 [acres]," this obscures somewhat that 5,000 acres in the "Cache Slough ROA" area is only the *minimum* target for that area, and that the potential total acreage restored in this area to achieve the 50-year BDCP target of 65,000-acre tidal marsh target could be much higher.

- payments deposited in a fund for local or state programs benefitting or preserving agricultural land;
- direct preservation of off-site agricultural lands through easements;
- investments in infrastructure or water operations measures to provide agreed upon direct or indirect benefits to a broader local or regional agricultural base (for example, investments in levees, salinity control structures, or appropriately timed upstream releases, flow criteria, and water diversion rules to mitigate potentially significant adverse impacts on existing beneficial uses of water, impacts to legal users of water, exceedances of relevant flow and water quality standards, etc.).

A programmatic mitigation plan is especially appropriate for use in connection with programmatic restoration programs such as the proposed BDCP program or any programmatic restoration plan potentially emerging from an eventual Delta Stewardship Council Delta Plan.

In the event the Agency proceeds with the proposed project, the Yolo County Farm Bureau encourages the Agency to incorporate agricultural land conversion mitigation as an express part of the project itself. For the current project, for example, local reuse of excavated soils on Bypass levees themselves as described in the Initial Study,⁷ *could* provide flood control benefits to agricultural lands in the Bypass (although, of course, this is not to suggest that this is either the *only* or, necessarily, the *most* appropriate form of potential direct or indirect mitigation for the project). For example, if plans for modification of the Fremont Weir are carried forward along with plans to manage the Eastside of the Bypass as seasonal floodplain habitat, appropriate timing of drainage of seasonal flood waters will be a critical programmatic mitigation measure to avoid significant adverse impacts to agricultural resources in the Bypass from late-season inundation in the Bypass, as recently proposed in the BDCP and in other forums.

Yolo County Wetlands Restoration Moratorium

The Agency's Initial Study, on page 7, mentions the Yolo County Board of Supervisors' November 9, 2010, 22-month moratorium on projects undertaken as mitigation for activities and impacts occurring outside of Yolo County. Notably, as stated in the County's moratorium itself, an express purpose of the moratorium is to "support" the County's Strategic Plan Goal of "preserving agriculture and open space" within Yolo County.

The Initial Study's "Land Use and Planning" section appropriately identifies possible conflicts with applicable land use plans, policies, or regulations of "an agency with jurisdiction over the project" as "potentially significant impacts" to be analyzed in the EIR. In addition, the "Land Use and Planning" section appropriately identifies the Yolo County General Plan, the Delta Protection's Land Use and Resources Management Plan,

⁷ Initial Study at 14.

and local permits and zoning as additional project constraints to be addressed in the Agency's Draft EIR. However, the "Land Use and Planning" section of the Initial Study *does not* include any mention the Board of Supervisors' moratorium.

As noted on page 7 of the Initial Study, the current moratorium includes a potential exemption for "[a]ny covered habitat mitigation project(s) undertaken by a person that enters into a Memorandum of Understanding or similar written agreement with the County addressing implementation of such project(s)."⁸ It appears from this statement that the Agency believes it may implement the proposed project by obtaining such an exemption. While this may be the case, until such an exemption is obtained, the County's moratorium would seem to be an appropriate topic for analysis in the Agency's EIR.

Conflicts with Applicable Habitat Conservation Plans or Natural Community Conservation Plans

The Initial Study discusses the potential for possible conflicts between the Lower Yolo Restoration Project, on one hand, and the Yolo HCP/NCCP and proposed BDCP HCP/NCCP on the other. Stating that "the goals and objectives of the proposed project are consistent with both [the Yolo HCP/NCCP and BDCP HCP/NCCP] regional plan documents," and that "the project would be in conformance with the anticipated general goals of the NCCP and HCP," the Initial Study concludes that the proposed project's potential to conflict with the Yolo HCP/NCCP is "less than significant." However, this conclusion seems to overlook the fact that, while the proposed Lower Yolo Restoration Project is presumably intended to contribute to the goals of the proposed BDCP HCP/NCCP, it has not to our knowledge yet been demonstrated that the proposed BDCP HCP/NCCP is *itself* consistent with the Yolo HCP/NCCP. Until such consistency is demonstrated, we suggest that the impact is "potentially significant," and that the Agency's EIR should analyze it accordingly.

Other Relevant Impacts for Analysis in the Agency's Draft EIR

Similar to the project's potential direct, indirect and cumulatively significant impacts on agricultural resources as discussed above (including impacts to existing Williamson Act-contracted land in Yolo County and the Delta at large), other potential significant direct, indirect, and cumulative impacts of the Lower Yolo Restoration Project, and of the Lower Yolo Restoration Project in combination with all other potential future restoration projects, should be addressed, both individually and cumulatively, in the important areas of flood control (including impacts to local drainage and Delta levees) and water quality (for both municipal drinking water and in-Delta irrigation purposes).

⁸ Initial Study at 7.

The Initial Study's "Hydrology and Water Quality" section appropriately identifies potential changes in methylmercury production, dissolved organic matter, and dissolved oxygen as "potentially significant" impacts in need of analysis in the EIR.⁹ The Initial Study's has also correctly identified as a "potentially significant impact" for analysis in

the EIR, possible substantial alteration of existing drainage patterns at the project site and in the vicinity.¹⁰ In particular, although the Initial Study seems to assume drainage impacts to surrounding lands and to the Bypass as a whole will be "negligible," this assumption should be carefully examined in the context of potential future projects, including proposed modifications of the Fremont Weir and more frequent and prolonged inundation of the Bypass.

We also suggest that the Agency reexamine the Initial Study's conclusion that on- or off-site siltation effects, with "extensive tule marsh and rush marsh" established upon the project site, will be "less than significant."¹¹ Specifically, the Agency should consult with Yolo County, the Army Corps of Engineers, the Central Valley Flood Protection Board, and the Sacramento Regional Flood Control Agency concerning the potential for long-term loss of flood water conveyance capacity as a result of dense vegetation, potential reduced water velocities, and associated siltation at the project site and elsewhere in the Bypass.

In addition, we suggest that the Agency revisit the Initial Study's "no impact" finding with respect to the project's potential to "otherwise substantially degrade water quality."¹² Specifically, in the context of the potential long-term cumulative impacts of the proposed project and other aquatic habitat projects in the Cache Slough Area and elsewhere in the Delta, the Agency should examine the potential for increased salinity intrusion into Cache Slough and other portions of the Sacramento-San Joaquin Delta, as a result of the increased tidal prism and other possible hydrodynamic alterations potentially associated with future large-scale tidal restoration. An analysis of such impacts should be made a part of the Agency's cumulative impacts analysis in the area of hydrology and water quality.

Finally, one additional source of potential significant impacts from the Lower Yolo Restoration Project and other projects like it concerns the significant issue of the potential human health and mosquito vector control effects of such projects. The Initial Study's "Mandatory Findings of Significance" section identifies the proposed project's effect on potential "human health risks" as "less than significant" with mitigation.¹³ In fact, the potential cumulative, human health impacts of the proposed project and other proposed projects like it in the future could be quite significant. These potential impacts should be analyzed accordingly.

⁹ Initial Study at 73.

¹⁰ Initial Study at 75.

¹¹ Ibid.

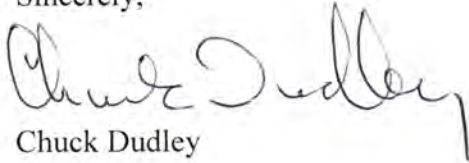
¹² Initial Study at 76.

¹³ Initial Study at 104-105.

Conclusion

The Yolo County Farm Bureau appreciates the opportunity to comment on the Agency's Notice of Preparation concerning preparation of the Agency's EIR for the proposed Lower Yolo Restoration Project. In closing, the Yolo County Farm Bureau would like to emphasize the importance of working with local growers and landowners and other affected entities in the Bypass, to identify and resolve potential conflicts and concerns and develop appropriate mitigation for this and other proposed habitat restoration projects in Yolo County and the Delta at large.

Sincerely,

A handwritten signature in black ink, appearing to read "Chuck Dudley". The signature is written in a cursive style with a large, prominent initial "C".

Chuck Dudley
President

cc: Yolo County Board of Supervisor
Paul Wenger, President, California Farm Bureau Federation

Stuart Siegel

From: Schmutte,Curtis [CSchmutte@mwdh2o.com]
Sent: Tuesday, March 29, 2011 2:04 PM
To: Shane,Delaine W; stuart@swampthing.org
Cc: Tara Beltran
Subject: FW: Lower Yolo Bypass Restoration Project

File.....

-----Original Message-----

From: Arthur Murray [<mailto:arthur.murray@dot.ca.gov>]
Sent: Tuesday, March 29, 2011 2:03 PM
To: Schmutte,Curtis
Subject: Lower Yolo Bypass Restoration Project

03-YOL-84 PM 6.540
Yolo Bypass Restoration Bypass Project
SCH# 2011032001
Notice of Preparation (Draft Environmental Impact Report)

Curt Schmutte
State and Federal Water Contractors Agency
1121 L Street, Suite 802
Sacramento, CA 95814

Dear Mr. Schmutte,

Thank you for the opportunity to review and comment on the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the Yolo Bypass Restoration Project. The proposed is being under taken as partial fulfillment of the 8,000-acre tidal restoration targets contained within the Reasonable and Prudent Alternative of the U.S. Fish and Wildlife Service Delta Smelt Biological Opinion and the National Marine Fisheries Service Salmonid Biological Opinion issued to the California Department of Water Resources. The primary goals of the project are to enhance regional food web productivity in support of Delta Smelt recovery and to provide rearing habitats for out migrating salmonids utilizing the Yolo Bypass. The project is located on the northwestern edge of the Sacramento-San Joaquin River Delta at the extreme southern end of the Yolo Bypass near Cache Slough.

At this time Caltrans has no further comments. However, the Department would appreciate being kept apprised of any changes to the above mentioned project description. Caltrans looks forward to working with the State and Federal Water Contractors Agency on this and future developments. If you have any questions, please contact me at 916-274-0616.

ARTHUR MURRAY
Desk: (916) 274-0616
Fax: (916) 274-0602

District 3 Division of Planning and Local Assistance Office of Transportation Planning-South
Caltrans District 3 Transportation Planning
2379 Gateway Oaks Drive Ste. 150
Sacramento, CA 95833



COUNTY OF YOLO

Board of Supervisors

District 1, **Michael H. McGowan**
District 2, **Don Saylor**
District 3, **Matt Rexroad**
District 4, **Jim Provenza**
District 5, **Duane Chamberlain**

625 Court Street, Room 204 • Woodland, CA 95695
(530) 666-8195 • FAX (530) 666-8193
www.yolocounty.org

County Administrator, **Patrick S. Blacklock**
Deputy Clerk of the Board, **Julie Dachtler**

March 29, 2011

Mr. Curt Schmutte
State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

Re: Response to Notice of Preparation (NOP) for the Lower Yolo Restoration Project

Dear Mr. Schmutte:

This letter responds to the NOP of an Environmental Impact Report (EIR) for the Lower Yolo Restoration Project (Project). The comments of the Yolo County Board of Supervisors are as follows.

Issues of General Concern

1. The Project is an Experiment.

The NOP explains that the Project will permanently restore tidal marsh and other habitat types on about 1,950 acres of irrigated pasture. These actions appear intended primarily to benefit the Delta smelt by increasing “regional food web productivity” and other biological values (NOP, p. 7). These actions are also directly linked to the 8,000-acre tidal restoration target set forth in the Reasonable and Prudent Alternative (RPA) component of the Delta Smelt Biological Opinion, issued by the Fish and Wildlife Service on December 15, 2008.

What the NOP fails to explain, however, is that the biological effectiveness of the Project is speculative. This is due to scientific uncertainty about whether increasing intertidal and subtidal habitat will offset other risks to the Delta smelt. As the National Research Council recently said on this subject:

[A]lthough the concept of increasing and improving habitat to help offset other risks to smelt is conceptually sound, the scientific justification provided in the biological opinion is weak, because the relationship between tidal habitat and food availability for smelt is poorly understood, and it is inadequate to support the details of the implementation of this action. The opinion notes the importance of high-quality food sources to delta smelt and the association of these food resources with tidal habitats (including wetlands), and it references recent monitoring data from Liberty Island showing that such freshwater tidal habitats can be a source of high-quality phytoplankton that contribute to the pelagic food web downstream (p. 380). However the specifics of which attributes of tidal habitat are essential to providing these food sources are not addressed.

In addition, the California Department of Fish and Game has raised questions about the details of this action (Wilcox, 2010). They include questions about the relative benefits

of vegetated tidal marsh as opposed to open water; the extent to which invasive clams may divert new primary production; the amount of suitable productivity exported from restoration areas; the potential effect of the restored habitat on predation; the importance of productivity from vegetated tidal marsh directly or indirectly to the smelt; and the degree to which other fish species might use the habitat, possibly to the detriment of the smelt. In briefings to the panel, the importance of ongoing studies in resolving these issues was identified. Identifying the characteristics of the “intertidal and subtidal habitat” that the action is expected to produce is needed to ensure that expectations of the outcomes, in terms of both habitat type and species benefits, are clear to all. The relative roles of areas of emergent vegetation, unvegetated intertidal and shallow, highly turbid subtidal habitat must be identified for the action to be effectively implemented.

The committee recommends that this action be implemented in phases, with the first phase to include the development of an implementation and adaptive management plan . . . , but also to explicitly consider the sustainability of the resulting habitats, especially those dependent on emergent vegetation in the face of expected sea-level rise. In addition, there should be consideration of the types and amounts of tidal habitats necessary to produce the expected outcomes and how they can be achieved and sustained in the long term. More justification for the extent of the restoration is needed.¹

Importantly, it is not clear how—or whether—the Project is being designed in a manner that is sensitive to these concerns and recommendations. The County questions whether the Project should move forward until SFCWA shows that its approach to the Project is responsive to these matters. While any action to restore habitat for the benefit of Delta smelt is necessarily experimental, there is no good reason to convert nearly 2,000 acres of productive farmland to habitat unless the “experiment” is sound.

In connection with the foregoing concerns, the County encourages SFCWA to consider alternatives to the Project that include the following:

- A smaller pilot project that includes a robust framework for scientific study, adaptive management, and other work recommended by the National Research Council.
- In lieu of undertaking the Project over the near-term, either:
 - Undertaking intensive surveys and other work on Delta smelt habitat projects proceeding on Liberty Island (and elsewhere) to address the many scientific questions expressed in the text quoted above; or
 - Restoring Delta smelt habitat on Prospect Island (if appropriate) or other areas where such habitat will not displace agriculture or cause other significant environmental impacts, following by the surveys and other work recommended above.

¹ This text appears on pages 54-55 of *A Scientific Assessment of Alternatives for Reducing Water Management Effects on Threatened and Endangered Fishes in California’s Bay-Delta*, published by the National Academy of Sciences (March 19, 2010). The report is available online at http://www.nap.edu/catalog.php?record_id=12881.

The County would like to see these alternatives considered in the EIR, together with other approaches sufficient to constitute a “reasonable range” of alternatives to the proposed Project.

2. Applicability of County Regulations and Other Plans and Policies.

The NOP appears to anticipate that County zoning and other local regulations will apply to the project. The County agrees with this conclusion. The Project will have to comply with all provisions of the Yolo County Code and obtain all required local permits. This is likely to include a County flood hazard development permit (Title 8, Chapter 3), grading permit(s) (Title 7, Chapter 1), and potentially an agricultural soil mining permit (Title 10, Chapter 8).² Depending on the timing of the Project, other County regulations could also be implicated.

For instance, the County currently has a moratorium on certain habitat projects that extends through October 12, 2012. The moratorium ordinance allows covered projects to move forward if County and project proponent conclude an agreement addressing the concerns that supported adoption of the moratorium. If SFCWA and the County are unable to reach such an agreement, the Project will not be able to proceed until the moratorium expires or is terminated by the Board of Supervisors.

The Project will also be subject to the Delta Protection Act and the Land Use and Resource Management Plan of the Delta Protection Commission. The County encourages SFCWA to scrutinize the requirements of the Act and the Resource Management Plan to ensure that the Project is fully consistent therewith. In addition, the Project will likely be subject to the Delta Plan upon its adoption by the Delta Stewardship Council. The County will thus have to certify that the Project is consistent with the Delta Plan in approving any permits for the Project.

The County looks forward to coordinating closely with SFCWA in its capacity as both a permitting entity and a responsible agency pursuant to CEQA. As with any other project, the County will require SFCWA to cover the cost of County staff resources in connection with the foregoing approvals.

3. Details of Adaptive Management and Long-Term Stewardship.

The NOP refers occasionally to adaptive management and long-term stewardship of the Project. Detail regarding such actions, however, is not provided. The EIR should include this information and a discussion of any environmental impacts that could result from the specific range of adaptive management and stewardship actions that are proposed as part of the Project. More generally, the County expects SFCWA to develop and fund a robust long-term stewardship plan that ensures the Project will be managed in perpetuity and that any unexpected issues, including but not limited to adverse effects on flood protection, will be promptly addressed.

4. Economic Impacts.

Information provided to the County indicates that the 1,950 acres included within the project currently support about \$3 million worth of livestock each year. The NOP also recognizes that the Project is merely one of many probable future projects that may be undertaken in connection with the 8,000-acre restoration requirement in the Delta smelt biological opinion and, in addition, the 65,000-acre restoration

² All references are to the Yolo County Code, available online at <http://www.yolocounty.org/Index.aspx?page=432>.

Mr. Curt Schmutte

March 29, 2011

Page 4 of 5

requirement currently being considered as part of the Bay Delta Conservation Plan (BDCP). Consequently, the economic impact of the Project—particularly when considered in conjunction with other probable future projects—is significant.

The County urges SFCWA to consider the indirect environmental effects of this potential impact in the EIR. In addition, if not required by CEQA, the County strongly encourages SFCWA to evaluate the potential economic effects of the Project and—in coordination with the County—to develop full mitigation for such effects. The County considers such an effort to be fundamental to the implementation of the Project and any related habitat restoration activities that may follow.

Specific Environmental Issues

1. Agricultural Resources.

The NOP observes that the Project site is currently in agricultural use (largely as irrigated pasture) and subject to Williamson Act contracts. The County concurs with the conclusion that the conversion of about 1,950 acres of farmland is potentially significant, both in isolation and in connection with probably future projects. It thus encourages careful analysis of this impact in the EIR. Contrary to statements in the NOP, this conversion will require mitigation pursuant to the County’s Agricultural Conservation Easement Program Ordinance (Yolo County Code Section 8-2.2416). The County would like to coordinate with SFCWA in the implementation of this mitigation requirement to ensure that the preserved acreage is appropriately located—preferably by conserving lands with multiple benefits (e.g., land with high value as pasture and wildlife habitat).

In addition, the NOP indicates that the Project’s “conformance with Williamson Act requirements will be addressed in the EIR.” While the Williamson Act does allow specified “open space” uses on contracted lands in certain instances, the contracts covering the Project site do not authorize or even contemplate the conversion of the site to tidal wetlands and other habitats. This is a potentially significant issue. It may be necessary to amend or even cancel the Williamson Act contracts before the Project can proceed. The County encourages SFCWA to consider this issue—in the EIR and otherwise—and coordinate with the County and the Department of Conservation to identify potential solutions.

2. Biological Resources.

Generally, the NOP appears to detail an appropriate range of issues for scrutiny in an EIR with respect to impacts on biological resources. In addition, however, the EIR should also consider the extent to which the project may create habitat for waterfowl and other species that may forage on agricultural lands (including but not limited to rice fields). Crop depredation is of serious concern to the County and the extent to which the Project may increase incidences of depredation should be studied and, if appropriate, avoided through changes in Project design or otherwise addressed by mitigation.

The County encourages SFCWA to continue to coordinate with the Yolo Natural Heritage Program in its project planning and environmental review efforts. This should help avoid any significant conflicts with the developing HCP/NCCP.

3. Greenhouse Gas Emissions/Climate Change.

In addition to considering construction emissions, the EIR should also evaluate the potential for the project to be a long term contributor to greenhouse gas (GHG) emissions following its construction. Wetlands are a documented source of GHG emissions and such emissions are thus properly considered in the EIR as part of a comprehensive analysis of this issue. Further, the County's Climate Action Plan was adopted on March 15, 2009, and it should therefore be considered in the EIR. While this may not be required as a matter of law (given the date of issuance of the NOP), it is both practical and appropriate to include consideration of the Climate Action Plan in the EIR.

Separately, the NOP notes that the long-term effect of climate change may result in a "migration" of the project to other portions of the Project site. In pertinent part, the NOP states that "[b]ecause of its position at the Delta margin, the site inherently provides extensive wetland-upland transitional habitats [sic] potential and it can accommodate sea level rise for many decades through marsh expansion landward." (NOP at p. 7.) The extent of such landward expansion should be quantified in the EIR using realistic assumptions about the rate of sea level rise. This analysis, in turn, should influence the analysis of impacts on agricultural resources, biological resources, and other environmental resources of the Project site. The NOP does not presently appear to contemplate consideration of such issues, but there is no question that such analysis is required by CEQA.

4. Hydrology and Water Quality.

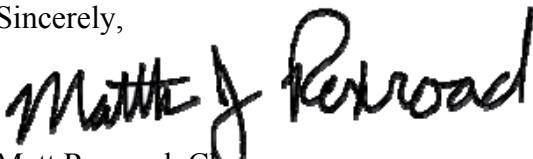
The NOP states that water quality issues of concern will be evaluated in the EIR, including potential issues relating to dissolved organic matter and methylmercury. The County agrees that such analysis is necessary and looks forward to reviewing the discussion of these issues in the EIR.

With regard to hydrology, the NOP indicates that the EIR fully analyze potential adverse effects on existing drainage patterns and other flood hazard issues. The County is very interested in this analysis and will consider related information carefully. As noted above, a County flood hazard development permit is required. The County encourages SFCWA to consult with the Planning and Public Works Department regarding the permitting process to ensure that studies prepared for the EIR and related processes will be adequate for the County permitting process. Lastly, the County encourages SFCWA to describe in the EIR how the Project is consistent with the Central Valley Flood Protection Plan.

* * *

The County appreciates the opportunity to provide these initial concerns and comments for consideration. We look forward to additional dialogue with SFCWA regarding this Project..

Sincerely,



Matt Rexroad, Chair
Yolo County Board of Supervisors

cc: Byron Buck, Executive Director, SFCWA

CENTRAL VALLEY FLOOD PROTECTION BOARD

3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95821
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682



March 30, 2011

Mr. Curt Schutte
State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, California

Dear Mr. Schutte:

Subject: Response to the Notice of Preparation/Initial Study
Lower Yolo Restoration Project, SCH Number: 20110320012030

Staff for the Central Valley Flood Protection Board has reviewed the subject document and provides the following comments:

The proposed project is located within the jurisdiction of the Central Valley Flood Protection Board (formerly known as The Reclamation Board). The Board is required to enforce standards for the construction, maintenance, and protection of adopted flood control plans that will protect public lands from floods. The jurisdiction of the Board includes the Central Valley, including all tributaries and distributaries of the Sacramento River and the San Joaquin River, and designated floodways (Title 23 California Code of Regulations (CCR), Section 2).

A Board permit is required prior to starting the work within the Board's jurisdiction for the following:

- The placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment, excavation, the planting, or removal of vegetation, and any repair or maintenance that involves cutting into the levee (CCR Section 6);
- Existing structures that predate permitting or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised (CCR Section 6);
- Vegetation plantings that will require the submission of detailed design drawings; identification of vegetation type; plant and tree names (i.e. common name and scientific name); total number of each type of plant and tree; planting spacing and irrigation method that will be within the project area; a complete vegetative management plan for maintenance to prevent the interference with flood control, levee maintenance, inspection and flood fight procedures (Title 23, California Code of Regulations CCR Section 131).

March 30, 2011
Mr. Curt Schutte
Page 2 of 2

Potentially Significant Hydraulic Impacts

Long Term Vegetation Management - Woody vegetation growth that is not managed would have a negative impact on channel capacity and increase the potential for levee over-topping. When a channel develops vegetation that then becomes habitat for wildlife, maintenance to initial conditions becomes more difficult and control of vegetative growth may be subject to environmental constraints. In these cases, it is important to develop maintenance practices that allow controlled growth of desirable habitat without unduly compromising channel capacity.

In accordance with Title 23 CCR Section 131 Vegetation (c) "Vegetation must not interfere with the integrity of the adopted plan of flood control, or interfere with maintenance, inspection, and flood fight procedures." Maintaining the channel and floodway is required to prevent the reduction of flowage capacity. Mitigation measures should be revised to include removal of all woody vegetation and trees in perpetuity and the amount of funding being provided for maintenance.

Sedimentation - The accumulation of sedimentation within the Yolo Bypass has occurred. Long term sediment accumulation would likely continue resulting in reducing channel capacity necessary to convey flood flows. Mitigation measures should include channel maintenance and improvements to reduce sediment accumulation.

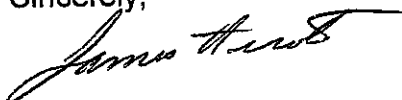
Easements - The proposed project is located within the Yolo Bypass, a federal flood control project. The draft document should clarify that the proposed project is subordinate to the CVFPB flood flowage easements and the operations of the flood control project.

The potential adverse hydraulic impacts resulting from the proposed project are significant as mitigation measures to control woody vegetation and sediment accumulation have not been provided.

The permit application and Title 23 CCR can be found on the Central Valley Flood Protection Board's website at <http://www.cvfpb.ca.gov/>. Contact your local, federal and state agencies, as other permits may apply.

Should you have any further questions, please contact me by phone at (916) 574-0651, or via email at jherota@water.ca.gov.

Sincerely,



James Herota
Staff Environmental Scientist
Floodway Projects Improvement Branch

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

**California Regional Water Quality Control Board
Central Valley Region**

11020 Sun Center Drive, Suite 200, Rancho Cordova, CA 95670



phone: (916) 464-3291

fax: (916) 464-4780

FAX TRANSMITTAL PAGE

Date: 30 March 2011

To: Curt Schmutte

From: Janis Cooke

Sender's Phone: 916 464-4672

Sender's E-mail: jcooke@waterboards.ca.gov

Number of pages
(including cover): 3

Subject: Lower Yolo Restoration Project Mercury.

Enclosed are comments regarding mercury issues that may impact the Lower Yolo project. We look forward to working with you during further project planning and to speaking with Stuart Siedel and others next week.

Janis



**California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair**



Linda S. Adams
Acting Secretary for
Environmental Protection

11020 Sun Center Drive, #200, Rancho Cordova, California 95670-8114
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Edmund G. Brown Jr.
Governor

30 March 2011

Curt Schmutte
State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

LOWER YOLO RESTORATION PROJECT – MERCURY ISSUES

This letter is to inform you of mercury issues related to wetlands in the Sacramento-San Joaquin River Delta (Delta) that may affect the Lower Yolo Restoration Project. By providing this information now, I anticipate that you will be able to fully address mercury concerns in the environmental documentation and further planning related to this project.

The Sacramento-San Joaquin River Delta (Delta) is identified on the Clean Water Act Section 303(d) List as impaired by mercury because of elevated methylmercury concentrations in fish that pose a risk to wildlife and humans who consume Delta fish. Mercury is a potent neurotoxicant. Methylmercury is the most toxic form of mercury. Methylmercury exposure causes multiple effects including loss of fine motor control and neurologic function, blindness, paralysis, birth defects and death. Adverse effects in children appear at dose levels five to ten times lower than associated with toxicity in adults. Effects of methylmercury are dose-dependent. Consumption of contaminated fish is the primary route of methylmercury exposure. Wildlife species also experience neurological, reproductive or other detrimental effects from mercury exposure. Wildlife species of potential concern that consume fish and other aquatic organisms from the Delta include piscivorous fish, herons, mergansers, grebes, bald eagle, kingfisher, osprey, mink, and river otter.

Central Valley Water Board staff developed a Total Maximum Daily Load (TMDL) control program to address the mercury impairment in the Delta. The TMDL contains methylmercury load allocations that would limit methylmercury in discharges to the Delta and a time schedule for meeting the allocations. Discharge types that are sources of methylmercury include wetlands and irrigated agriculture. For each of seven hydrologic subareas of the Delta, a single methylmercury allocation applies to the sum of methylmercury loads contributed by managed wetlands within the subarea. Allocations apply to wetlands created, managed, or restored both before and after the adoption of the TMDL. The Shin Kee Tract Wetland Mitigation Site lies within the TMDL's Central Delta hydrologic subarea.

In addition to methylmercury allocations, the TMDL control program also requires that entities that manage wetlands in the Delta participate in studies to develop and evaluate management practices to reduce methylmercury discharges. The Applicant and/or the property's future

Curt Schmutte

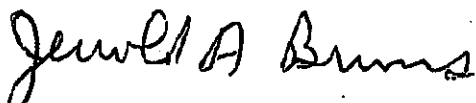
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30 March 2011

managing entity would be required to (a) implement a site-specific control study or participate in a comprehensive study plan in collaboration with other wetland managers in the project area and (b) implement newly developed management practices as feasible.

The Central Valley Water Board adopted the Delta mercury TMDL in April 2010.¹ The State Water Resources Control Board will hold a public hearing to consider approval of the TMDL in June 2011. Requirements of the TMDL go into effect after the TMDL is approved by both the State Water Resources Control Board and the U.S. Environmental Protection Agency. The discharge of methylmercury may be limited from the proposed project. The Applicant is hereby notified that the TMDL's methylmercury discharge limitations and methylmercury control study requirements are expected to apply to this project. Even without an approved TMDL control program, the Porter-Cologne Water Quality Control Act requires the Central Valley Water Board to prevent the creation of new toxic hot spots and the further pollution of existing hot spots. The project proponent would be required to monitor the effects of the project on methylmercury levels and to avoid adding to the mercury impairment.

If you have questions, you may contact Janis Cooke of my staff at 916 464-4672 or jcooke@waterboards.ca.gov

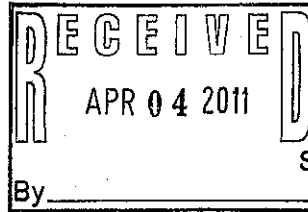


Jerrold A. Bruns
Environmental Program Manager
TMDLs, Basin Planning, NPS, and Delta Section

¹ The Central Valley Water Board Resolution R5-2010-0043 and adopted Basin Plan amendment containing the Delta methylmercury and mercury TMDL are available at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2010-0043_res.pdf



DELTA STEWARDSHIP COUNCIL



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March 30, 2011

Mr. Byron Buck, Executive Director
State & Federal Water Contractors Water Agency
1121 L Street, Suite 802
Sacramento, California 95814

Chair
Phil Isenberg

Members
Randy Florini
Gloria Gray
Patrick Johnston
Felicia Marcus
Hank Nordhoff
Don Nottoli

Executive Officer
P. Joseph Grindstaff

RE: Comments on the Notice of Preparation/Initial Study for the Lower Yolo Restoration Project

Dear Mr. Buck,

The Delta Stewardship Council (Council) is pleased to have the opportunity to review the Notice of Preparation/Initial Study for the Lower Yolo Restoration Project. Our staff review focused on assessing the consistency of the proposed project with provisions of the Delta Reform Act. In general, the Act calls for a comprehensive management plan for the Delta and Suisun Marsh that balances coequal goals for reliable water supply and Delta ecosystem restoration. The Delta Plan's ecosystem goals will promote characteristics of a healthy Delta ecosystem including:

- Viable populations of native resident and migratory species.
- Functional corridors for migratory species.
- Diverse and biologically appropriate habitats and ecosystem processes.
- Reduced threats and stresses on the Delta ecosystem.
- Large areas of restored interconnected habitats within the Delta and its watershed by 2100.
- A more natural salinity regime in parts of the Delta.

In addition, the Delta Plan will promote managing the Delta's water and environmental resources and the water resources of the state over the long term, providing for the sustainable management of the Sacramento-San Joaquin Delta ecosystem, and using the best available science.

"Restoration" is defined in the Act as: "...the application of ecological principles to restore a degraded or fragmented ecosystem and return it to a condition in which its

"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

- State Water Code §85054

biological and structural components achieve a close approximation of its natural potential, taking into consideration the physical changes that have occurred in the past and the future impact of climate change and sea level rise.”

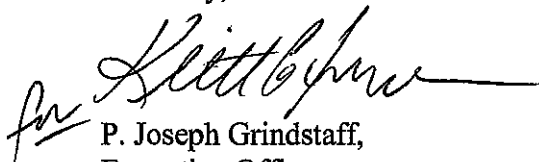
The proposal is well presented. The project description is clear and well organized, with excellent maps. It lays out four clear goals including enhancement of regional food web productivity, provision of rearing habitat, support for other wetland dependent species, and restoration of tidal freshwater marsh, floodplain, and seasonal wetland processes. The proposal also well considers the practical logistics of modifying the existing land use to meet the goals. The requirements for evaluation of an NOP/IS appear to be met more than sufficiently.

Overall, we find the proposed project to be generally consistent with the provisions of the Delta Reform Act. We recognize that the project is intended to serve several regulatory purposes including fulfillment of Reasonable and Prudent Alternatives (RPA) of USFWS Delta Smelt and NMFS salmonid biological opinions, as well as crediting the proponent's contribution to a future Bay Delta Conservation Plan.

The Council expects to issue a Delta Plan that meets the statutory requirements of the Delta Reform Act. As such, the DSC looks forward to a Lower Yolo Restoration Project EIR/EIS that is consistent with provisions of the Act. We understand that as a NOP/IS, it would be inappropriate to expect a monitoring or adaptive management program description at this stage. We expect the forthcoming EIR/EIS, however, to describe not only an adaptive management program, but also how the project is using the best available science to determine alternatives and ultimately its preferred alternative.

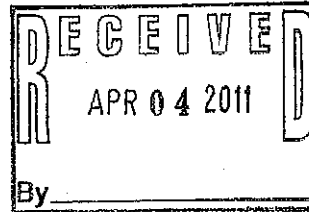
Another important Delta Plan goal will be to insure that restoration initiatives are scaled appropriately to native species life history behavior. In general this means that large areas of interconnected habits will be required in order to be consistent with the Delta Plan. This project, while of significant scale, represents a small geographical extent compared to the habitat life history requirements of most native species including Chinook salmon or Delta Smelt. While we must “start somewhere,” the earliest tidal restoration projects will need to describe how they are amenable to adaptive design modifications in order to connect to future projects in the near region as they arise.

Sincerely,


P. Joseph Grindstaff,
Executive Officer

DEPARTMENT OF WATER RESOURCES

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(916) 653-5791



March 30, 2011

Curt Schmutte
State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

Subject: Notice of Preparation/Initial Study (NOP/IS) for the Lower Yolo Restoration Project
(SCH 2011032001)


Dear Mr. Schmutte:

The Department of Water Resources (Department) appreciates the opportunity to review and provide comments on the Notice of Preparation/Initial Study (NOP/IS) for an Environmental Impact Report (EIR) for the Lower Yolo Restoration Project. This proposed project is located within the Yolo Bypass, which is part of the State Plan of Flood Control. The proposed project is adjacent to existing state-owned property in the Cache Slough Complex and has the potential to benefit the threatened and endangered species known to use this unique area. The Department has an interest in the effect (positive and/or negative) of this proposed project on other areas of the Cache Slough Complex, and on flood conveyance, flood control structures, and the operation and maintenance of those structures.

The Department recommends the project proponent coordinate with the Central Valley Flood Protection Board (Board) for any planning and design considerations that may impact flood conveyance such as placing a soil berm along the waterside of the west levee or installing an elevated pad within the Yolo Bypass. The U.S Army Corps of Engineers (Corps) promulgated an Operations and Maintenance Manual for the Sacramento River Flood Control Project, including the Yolo Bypass. This manual requires specified maintenance, including but not limited to maintaining the channel and floodway clear of debris such that there is no restriction by deposition of waste materials, unauthorized structures or other encroachments; and maintaining the channel and floodway in such a way that the capacity is not reduced. Placing a soil berm along the waterside of the west levee may have the potential to impact the flood control system.

The Department recommends working closely with its Division of Flood Management and the Board to address these issues. Also, the Department recommends that the Long-Term Operations and Maintenance Plan for this site include a section that recognizes and describes the general flood control maintenance responsibilities as described in the agreement with the Corps. Specifically, the Department recommends that the project proponent work closely with the U.S. Fish and Wildlife Service to obtain assurances that future flood maintenance or flood fight

activities may continue on the nearby (within 200 feet) levee and that future activities would not require mitigation due to creation of the ditch that may harbor listed species.

The following suggestions for the EIR are organized according to specific text within the NOP/IS (and are listed in order of appearance within the document).

- Pages 2 and 3, Figures 1 and 2: The Department suggests including Prospect Island within the boundary of the Yolo Bypass. The Department understands that several opinions exist regarding the formal definition of the southern extent of the Yolo Bypass. In the Yolo Bypass Management Strategy, the southern extent of the Yolo Bypass is defined as being “bounded on the east by the Toe Drain and the East Bypass Levee (also considered the west levee of the Sacramento River Deep Water Ship Channel), downstream to the northwest corner of Prospect Island. At this location, the Bypass extends east to include Prospect Island, although the East Bypass Levee remains intact along the west edge of the island.”
- Page 7, line 9 (and page 51, line 31): The Department suggests removing the word “outmigrating” from the sentence, as tidal habitat can be used as rearing habitat by juvenile salmon from the Sacramento River as well (i.e., it is not limited only to salmon outmigrating from the Yolo Bypass), particularly in dry years with little floodplain inundation.
- Page 8, line 6 (and page 14, line 3): The EIR should address potential impacts to the flood control system, such as flood flows, capacity, and/or flood maintenance, and include hydraulic modeling and an engineering analysis for the preferred project and alternatives.
- Page 8, lines 16-17: The EIR should include information on when and where seasonal cattle grazing would occur, whether cattle would be restricted from entering marsh and pond areas, and the associated impacts on water quality both on and off-site.
- Page 11, lines 4-8: The proponents may wish to add a third goal, such as “This design is to be used for the study and comparison of flow-through versus dendritic channel networks.”
- Page 11, lines 35-37: The EIR should address whether or not the projected tidal flow velocities would discourage non-native aquatic vegetation (e.g., *Ludwigia*) or encourage such species, and if any impacts would be promulgated off-site.
- Page 12, line 20: Ditch blocks and other infrastructure may impact flood flows. Design details, including whether these features are permanent or temporary structures, should be addressed in the EIR.

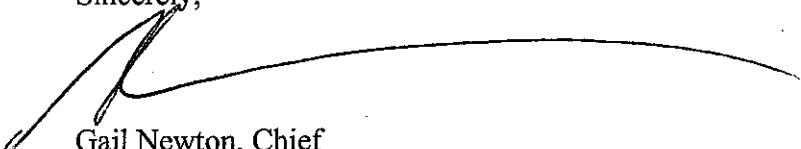
- Page 14, line 20: If plants (especially woody species) are to be planted on the levee or toe berm, a species list, specifying native species, should be included along with the location for each planting. Landscaping designs may need to be evaluated for impacts (if any) to levees or other flood structures.
- Page 14, line 32 (and page 17, line 30): Soil permanently stockpiled within the Yolo Bypass may impact capacity of the flood control system. The potential impact of this material being stockpiled during flood season should be included in hydraulic modeling of all project alternatives within the EIR.
- Page 15, line 35: Temporary low berms not removed prior to the flood season may impact capacity of the flood control system. Analysis of this should be included in hydraulic modeling of all project alternatives within the EIR.
- Page 17, line 25: Placing a new irrigation ditch in the Yolo Bypass may impact the flood control system. This should be included in hydraulic modeling of all project alternatives within the EIR.
- Page 18, line 8: The Board has construction timing restrictions that should be incorporated into the timeline for this project.
- Page 20: Section A.8.5. The Long-Term Operations and Maintenance Plan should also include flood maintenance activities.
- Page 20, line 15: Include a plan to monitor and control invasive aquatic vegetation, in addition to invasive terrestrial vegetation.
- Page 20, line 29: The text reads that “riparian floodplains are not a significant component of the Yolo Bypass.” Riparian floodplains may make up a limited geographical amount of land on the Yolo Bypass, but they are biologically important and a target habitat for many of the Department’s activities.
- Page 20, line 32: The Department recommends that this text read “bounded by *tidal marsh and open waters ...*”
- Pages 20-21: Section A.9, Setting and Surrounding Land Uses. This section should include language about the current state (tidal marsh and subtidal habitat, etc.) and planned land use on the properties south of the project site (Liberty Island, Little Holland Tract, and Prospect Island).

Curt Schmutte
March 30, 2011
Page 4

- Page 50, lines 29-37: The Department recommends that all invasive aquatic vegetation be included, since non-native predators will colonize both submerged and floating aquatic vegetation (SAV and FAV).
- Page 68, Table: The changes proposed (sediment stockpiles and channel creation) may potentially affect water quality during some portions of the year. Though likely a temporary impact, increased soil erosion potential during the initial phases of the project should be addressed in the EIR and discussed with regard to both on and off-site impacts.
- Page 104-105, Cumulative Impacts Assessment: The EIR should address whether there is a long-term cumulative impact on the tidal budget.

The Department appreciates your consideration of these comments on the Lower Yolo Restoration Project NOP/IS and looks forward to reviewing the EIR for this project in the future. Please direct any questions you may have about these comments to Lori Clamurro Chew at (916) 653-5735, or lchew@water.ca.gov.

Sincerely,



Gail Newton, Chief
DWR FloodSAFE Environmental Stewardship
and Statewide Resources Office

cc: Dean Messer, DWR, DES
Gary Bardini, DWR, DFM
Jay Punia, CVFPB



SOLANO COUNTY
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Bill Emlen, Director
Clifford K. Covey, Assistant Director

March 31, 2011

Mr. Curt Schmutte
State and Federal Contractors Water Agency
1121 L Street, Suite 802
Sacramento, CA 95814

RE: Notice of Preparation for the Lower Yolo Restoration Report

Dear Mr. Schmutte:

The County of Solano (County) has reviewed the Notice of Preparation (NOP) for the Lower Yolo Restoration Project Environmental Impact Report (EIR). It is our understanding that the project is fully within Yolo County but does abut the Solano County boundary. In response to the NOP, the County submits the following comments for consideration in preparation of the EIR:

- This EIR should analyze the economic impacts of the project's conversion of agricultural land to restored wetlands, including mitigation for economic impacts to local entities from conversion of productive lands to habitat.
- The EIR should analyze potential impacts to properties adjacent to the project in Solano County. A system should be developed to work out mutually agreed on strategies with local stakeholders to address and fully mitigate impacts.
- This EIR should evaluate and contain mitigation measures to ensure that the flood control system is not compromised by habitat development including areas in Solano County.
- The EIR should protect local government resources and hold these harmless with good neighbor agreements.
- Habitat restoration activities may result in land use impacts on adjoining and upland agricultural lands and should be analyzed in the EIR. This will include the loss of agricultural land that may not be converted to habitat within a habitat area but may be impeded in future operations due to adjacency of habitat areas.
- The EIR should include an evaluation of operational impacts of habitat restoration on agricultural activities. Such impacts may include increased vector impacts, introduction of invasive species and agricultural pests; avian impacts on agricultural crops and operations; increased potential for take of listed species as a result of proximity to adjoining conservation habitat areas; and restrictions on pesticide/herbicide usage and discharge limits that are more restrictive than normal agricultural practices due to adjacent wetlands and aquatic habitat area protection requirements. These impacts may limit the types of crops, pesticide use and other

agricultural practices and must be fully analyzed in the EIR. Potential mitigation measures would include:

- Establishment of buffer areas incorporated into the project sufficient to avoid the need for additional restrictions on farm practices.
 - Establish water quality objectives for any potential discharges that may impact buffer areas and designated areas and the State committing to taking responsibility for any increased regulatory requirements from upstream point and non-point discharges due to existence of new habitat areas.
 - Establish "good neighbor" programs to deal with vectors, invasive species and agricultural pests to be incorporated and funded as part of conservation management plans.
 - Full federal Endangered Species Act (ESA) and California Endangered Species Act (CEAS) protection for neighboring lands/landowners.
- For successful implementation of the Lower Yolo Restoration Plan and EIR mitigation measures, a stakeholders group or some variation should be formed that will have oversight of the project implementation including evaluating the success of the restoration project and implementation of adaptive management measures. This group should include local representatives including a representative from Solano County.
 - Depending on future changes to the project to meet management goals and to the extent these future actions have not been analyzed in this environmental document, future environmental review would be required.

One final general comment pertains to how significance thresholds are established for the impacts evaluated in the EIR. Solano County's concern is that the project mitigations that help the project meet its objectives do not obviate further evaluation of the impacts of the mitigation measures themselves. Thus, there needs to be a depth of analysis that considers how to mitigate the impact of mitigation. This is a bit unusual, but quite germane to the complexity of such projects and the many potential competing objectives.

We wish to thank you for the opportunity to comment on the NOP for the Lower Yolo Restoration Plan. If you have questions concerning our comments on the NOP, please contact Kathy Barnes-Jones at (707) 784-7914 or at krbarnes-jones@solanocounty.com.

Sincerely,



Bill F. Emlen
Director of Resource Management

cc: Board of Supervisors of Contra Costa, Sacramento, San Joaquin, and Yolo Counties
Birgitta Corsello, Assistant County Administrator
Jim Allan, Agricultural Commission/Sealer of Weights and Measures
Jan Vick, Mayor of Rio Vista
David Okita, General Manager, Solano County Water Agency
Mike Hardesty, General Manager, Reclamation District 2068
Steve Chappell, Executive Director, Suisun Resource Conservation District

Daniel Gillenwater

From: Schmutte, Curtis [CSchmutte@mwdh2o.com]
Sent: Friday, April 01, 2011 1:49 PM
To: Shane, Delaine W; stuart@swampthing.org; 'Daniel Gillenwater'; richard grassetti; 'Christina Toms'; Chris Bowles; Chris Campbell; Tara Beltran
Subject: FW: Lower Yolo Restoration Project - Notice of Preparation - Comments from the West Sacramento Area Flood Control Agency

Tara,

Please file accordingly.

Thanks Curt

From: Powderly, John [<mailto:johnp@cityofwestsacramento.org>]
Sent: Friday, April 01, 2011 1:14 PM
To: schmutte@sfcwa.org
Cc: Bessette, Michael; Shpak, Dave; Scheeler, Tom
Subject: Lower Yolo Restoration Project - Notice of Preparation - Comments from the West Sacramento Area Flood Control Agency

Mr. Schmutte,

The West Sacramento Area Flood Control Agency (WSAFCA) is a Joint Powers Authority consisting of the City of West Sacramento, Reclamation District 900 (RD 900), and Reclamation District 537 (RD 537). WSAFCA's purpose is to coordinate the planning and construction of flood protection facilities and to finance the local share of flood control projects that improve flood protection for the City of West Sacramento. WSAFCA's primary goal is to achieve a minimum of 200-year flood protection for the City. WSAFCA also may pursue, when consistent with the primary goal, the secondary goals of habitat restoration and public recreation & access. The flood protection system protecting the City of West Sacramento consists of over 50 miles of levees in RD 900, RD 537, DWR's Maintenance Area 4, and the Deep Water Ship Channel (DWSC) extending into Solano County.

I have received and reviewed the Notice of Preparation for the Lower Yolo Restoration Project (LYRP). The EIR should consider, analyze, and discuss the following:

- The LYRP is adjacent to the eastern levee of the Yolo Bypass, which is also the western levee of the DWSC. It's my understanding that this levee is owned by the Port of West Sacramento. Coordination with Port of West Sacramento is necessary. Coordination with nearby Reclamation Districts, the Central Valley Flood Protection Board (CVFPB) and the US Army Corps of Engineers (USACE) may also be warranted. Permits from these agencies may also be required.
- How will the proposed excavation adjacent to the DWSC levee impact the flood protection operation of that levee? Our analysis indicates that the DWSC levee adjacent to your project site provides flood protection to the City of West Sacramento. The excavation of material adjacent to the DWSC levee as described in the NOP could, under certain geotechnical conditions, increase the chances of levee failure due to underseepage during a high-water event. A geotechnical investigation and seepage analysis is necessary to determine the possible impact on the flood protection operation of the DWSC levee. Depending on the results of the seepage analysis, coordination with and permits from RDs, the CVFPB, and USACE may be necessary.

- Will the project, either immediately or in the future, create habitat that would cause the DWSC levee to not comply with USACE ETL 1110-2-571 **GUIDELINES FOR LANDSCAPE PLANTING AND VEGETATION MANAGEMENT AT LEVEES, FLOODWALLS, EMBANKMENT DAMS, AND APPURTENANT STRUCTURES** (USACE’s levee vegetation maintenance policy)?
- How will the project integrate with the access road at the toe of the levee? Both levee operations & maintenance and public recreation – pedestrian as well as boating - should be considered.
- If there are any existing places within the project area to obtain access to the levee crown, how will the project maintain that access? Both levee operations & maintenance and public recreation – pedestrian as well as boating - should be considered.

Thank you for the opportunity to comment on this project. Please let me know if you have any questions.

John Powderly
Associate Planner
City of West Sacramento/West Sacramento Area Flood Control Agency
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(916) 617-4850
johnp@cityofwestsacramento.org

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Appendix C

Special-status Plant and Wildlife Species Tables

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TABLE C-1

List of Special-status Plants Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

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Table C-1. List of Special-status Plants Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> Woolly rose-mallow	CNPS - 2	Inhabits Central Valley wet banks and marshes below 40 meters (about 131 feet [ft]) in elevation; threatened by riverbank alteration; flowering occurs between June and September.	Potential habitat is present onsite. This species was not observed in any of the accessible bank edges, but potentially could occur on inaccessible banks.	Possible (low to moderate)
<i>Juglans hindsii</i> Northern California black walnut (stands)	CNPS - 1B.2	Occurs along streams and disturbed slopes.	Two individual trees observed onsite, but not continuous stands.	Observed Two Individuals; No stands
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	CNPS - 1B.2	Inhabits coastal and estuarine marshes in the Central Valley and San Francisco Bay area, below 30 meters (about 98 ft) in elevation; flowering period occurs from May through July.	Suitable habitat is present in multiple locations; this species was observed onsite.	Observed on Project site
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's peppergrass	CNPS - 1B.2	Occurs on valley and foothill grassland alkaline flats, within the Sacramento Valley below 200 meters (about 656 ft) in elevation; flowering period extends from March through May.	Suitable habitat for this species was not observed onsite.	Not expected
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	SR, CNPS - 1B.1	Inhabits approximately sea level, intertidal marshes and stream banks within the Sacramento Valley and San Francisco Bay Area; flowering period persists from April through November.	Suitable habitat does occur onsite along the Stair Step Channel. Multiple occurrences were documented on the southern portion of this channel.	Observed on Project site
<i>Symphyotrichum lentus</i> Suisun marsh aster	CNPS - 1B.2	Appears endemic to brackish and freshwater marshes and along banks of sloughs and waterways within the Suisun Marsh and the Delta; found at elevations below 150 meters (about 492 ft); flowering period extends from May through November.	Suitable habitat is present onsite. This species was documented in similar habitats as Mason's lilaeopsis.	Observed on Project site
<i>Cordylanthus palmatus</i> Palmate-bracted bird's beak	SE, CNPS - 1B.1	Occurs on alkaline flats, shadscale scrub, valley grassland, and wetland riparian areas of the Great Central Valley; found along channels and drainages below 60 meters (about 197 ft) in elevation; flowering period extends from May through October.	Suitable habitat for this species does occur onsite; however, this species' distribution is extremely limited. Intensive surveys found no evidence of presence of this species onsite.	Not expected

Table C-1. List of Special-status Plants Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris' milkvetch	CNPS - 1B.1	Inhabits subalkaline flats, meadows, and seeps with adobe soils of valley and foothill grasslands; found only below 60 meters (about 197 ft) in elevation; flowering period persists from April through May.	Potential habitat is present onsite; however, this species distribution range is very limited – only three populations have been found in Yolo County: Tule Ranch Vernal Pools and two other agricultural field sites where this species has likely been extirpated.	Not expected
<i>Astragalus tener</i> var. <i>tener</i> Alkali milkvetch	CNPS - 1B.2	Occurs on alkaline and saline soils in vernal wet playas, flats, as well as valley and foothill grasslands; occurs in conjunction with adobe clays below 60 meters (about 197 ft) in elevation; flowering period extends from March until June.	Habitat requirements for this species are similar to Ferris' milkvetch, with the range and distribution of Alkali milkvetch as extremely limited in Yolo County.	Not expected
<i>Tuctoria mucronata</i> Solano grass	FE, SE, CNPS - 1B.1	Dwells specifically in salt-affected, clay soils in alkaline vernal pools or along alkaline playas with long periods of inundation; flowering period persists from April through August.	Minimal habitat for this species found onsite. This species requires salt-affected clay soils, which are present on Yolo Ranch. However, vernal pools onsite offer poor quality habitat. This species has a very limited distribution in Yolo County.	Not expected
<i>Neostapfia colusana</i> Colusa grass	FT, SE, CNPS - 1B.1	Occupies alkaline vernal pools, alkaline playas, acidic vernal pools, and intermittent drainages; occurs below 200 meters (about 656 ft) in elevation and flowers from May until August.	This species requires similar habitat as Solano Grass- vernal pools onsite offer limited, low-quality habitat. There are only two documented occurrences of this species in Yolo County, both sites found in Yolo Grasslands Park.	Not expected
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	CNPS - 1B.1	Occurs on clay or alkaline clay soils in vernal pools and swales in valley and foothill grasslands; persists up to 1700 meters (about 5,577 ft) in elevation with a flowering period extending from April to July.	As with Solano and Colusa grasses, this species occurs in vernal pools with alkaline soils. This species has an extremely limited range and is limited to one location in Yolo County on the California Department of Fish and Wildlife's Tule Ranch Preserve.	Not expected
<i>Atriplex joaquiniana</i> San Joaquin spearscale	CNPS - 1B.2	Occurs on alkaline soils, clay bottom vernal pools, as well as valley and foothill grasslands; found at elevations below 300 meters (about 984 ft); flowering period persists from April through October.	Potential habitat for this species does occur onsite; however, intensive surveying found no evidence of this species occurring on the Project site.	Not expected

¹ Explanation of State and Federal Listing Codes

Federal listing codes:

FE = Federally-listed as endangered
FT = Federally-listed as threatened

California listing codes:

SE = State-listed as endangered
ST = State-listed as threatened

California Native Plant Society (CNPS) listing codes:

CNPS - 1B.1 = Rare, threatened, or endangered in California and elsewhere: seriously endangered in California
CNPS - 1B.2 = Rare, threatened, or endangered in California and elsewhere: fairly endangered in California
CNPS - 2 = Rare, threatened, or endangered in California and elsewhere: more common elsewhere

TABLE C-2

List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

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Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Invertebrates				
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE	Appears in large, turbid pools located in swales formed by old, braided alluvium, endemic to the grasslands of northern Central Valley; such pools are filled by winter/spring rains that last until June.	Seasonal pools on Project site provide potential habitat for this species. The California Natural Diversity Database (CNNDDB) records indicate occurrences in southern Yolo County.	Possible (Low)
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT	Found in the Central Valley, central and south Coast Ranges from Tehama to Santa Barbara counties; isolated populations also in Riverside County. Common in vernal pools; also found in sandstone rock outcrop pools.	Three seasonal wet pools onsite provide potential habitat for this species. This species was present during wet season sampling in Spring 2011 (Vollmar Natural Lands Consulting 2011)	Observed on Project site
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water; such pools are commonly found in grass bottomed swales of unplowed grasslands and are occasionally mud-bottomed and highly turbid.	Three seasonal wet pools onsite provide potential habitat for this species. CNNDDB records identify occurrences in southern Yolo County.	Possible (Low)
<i>Cicindela hirticollis abrupta</i> Sacramento valley tiger beetle	SSC	Found in sandy areas among willows in riverine and riparian habitats in the Lower Sacramento Valley (i.e., Sacramento/Lower American rivers and Cache Creek).	No suitable habitat present. Species has not been documented within five miles of the Project site.	Not Expected
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California in association with blue elderberry (<i>Sambucus mexicana</i>); prefers to lay eggs in elderberries two to eight inches in diameter, with some preference shown for stressed elderberries.	No blue elderberry shrubs were detected in the riparian habitat on Project site. No suitable habitat present.	Not Expected
Fish				
<i>Acipenser medirostris</i> Green sturgeon	FT, SSC	Spawns in the Sacramento and Klamath rivers; spawns at temperatures between 8-14 degrees Celsius (about 46 to 57 degrees Fahrenheit); preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	Known to occur in the Yolo Bypass area and to spawn in the Sacramento River. Juveniles return to sea via the Sacramento River and estuary.	Possible; however, with Project implementation, potential occurrence is expected

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Fish — continued				
<i>Hypomesus transpacificus</i> Delta smelt	FT, CH, ST, AFS-T	Inhabits brackish water in the Sacramento-San Joaquin Delta, and has been documented at the mouth of the American River, on the Sacramento River and Mossdale on the San Joaquin River, and downstream to San Pablo Bay. Breeds in freshwater habitat in winter and spring.	The CNDDDB records from Sacramento River have been examined for this species. None detected in the Yolo Bypass.	None Present; however, with Project implementation, potential occurrence is expected
<i>Hypomesus transpacificus</i> Longfin smelt	ST	Inhabits brackish water in the Sacramento-San Joaquin Delta system. Delta smelt have been documented as far upstream as the mouth of the American River, on the Sacramento River and Mossdale on the San Joaquin River, and downstream as far as San Pablo Bay. It breeds in freshwater habitat during winter and spring.	The California Department of Water Resources' fish monitoring data indicate the longfin smelt occurs in water bodies adjacent to the Project site, including the Toe Drain.	Possible; however, with Project implementation, potential occurrence is expected
<i>Lampetra tridentate</i> Pacific lamprey	SC	Occupies a range in California that includes rivers and creek of the Central Valley, with the adult life stage spent in the ocean. Spawning occurs in freshwater rivers.	May occur in the Project area during spawning season (i.e., March through January).	Possible; however, with Project implementation, potential occurrence is expected
<i>Lampetra ayresii</i> River lamprey	SSC	Found in distributed streams and rivers along the eastern Pacific Ocean from Juneau, Alaska to San Francisco Bay; it may have its greatest abundance in the Sacramento-San Joaquin River system, although it is not commonly observed in large numbers.	May occur in the Project area during the summer months, following completion of metamorphosis from juvenile to adult.	Possible; however, with Project implementation, potential occurrence is expected

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Fish — continued				
<i>Oncorhynchus mykiss</i> Chinook salmon (fall - and late fall -runs)	SC, SSC	Utilizes the Yolo Bypass under inundated conditions. Adults migrate upstream to spawn (July – December), while later the juveniles emigrate downstream.	May occur in the area as suitable habitat occurs. Adults noted in Yolo Bypass (October – June). Juveniles have been captured in Project vicinity, from December – June.	Possible; however, with Project implementation, potential occurrence is expected
<i>Oncorhynchus mykiss</i> Chinook Salmon (spring-run)	FT, ST	Utilizes the Yolo Bypass under inundated conditions. Adults migrate upstream to spawn, while later the juveniles emigrate downstream.	May occur in the area as suitable habitat occurs. Adults documented in Yolo Bypass October – June. Juveniles have been captured in Project vicinity, from December – June.	Possible; however, with Project implementation, potential occurrence is expected
<i>Oncorhynchus mykiss</i> Chinook salmon (winter- run)	FE, SE	Utilizes the Yolo Bypass under inundated conditions. Adults migrate upstream to spawn, while later the juveniles emigrate downstream.	May occur in the area as suitable habitat present. Adults documented in Yolo Bypass October – June. Juveniles have been captured in Project vicinity, from December – June.	Possible; however, with Project implementation, potential occurrence is expected
<i>Oncorhynchus mykiss</i> Steelhead (Central Valley)	FT	Uses the Yolo Bypass under inundated conditions, and serves as a migration corridor for adults in upstream tributaries (August through April), as well as for downstream juveniles. Inundated floodplain provides rearing habitat for juveniles, during their emigration period (i.e., January through June).	May occur in the Project area as suitable habitat present. Adults have been documented on the Yolo Bypass as late as June. Kelts (post-spawning adults) may be present in the Yolo Bypass shortly after spawning (i.e., January through mid-April).	Possible; however, with Project implementation, potential occurrence is expected

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Fish — continued				
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	SSC	Found historically in the sloughs, slow-moving waters, and lakes of the Central Valley; prefers warm water, with aquatic vegetation essential for the young.	May occur in the Project areas as a suitable habitat present. Species has not been documented in the region. The CNDDDB records indicate presence in the lower sections of the Sacramento and Feather rivers.	Possible; however, with Project implementation, potential occurrence is expected
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	FT, CH, ST	Inhabits seasonal/semi-permanent water sources (three to four months in duration) and adjacent upland habitat in lowland grasslands, oak savannah and mixed woodlands. Range includes the Central Valley and Central Coast ranges from Colusa County south to San Luis Obispo and Kern counties from sea level to 1,054 meters (about 3,460 ft) in elevation with two populations within Sonoma and Santa Barbara counties.	Yolo Bypass does not provide suitable estivation habitat for this species, due to winter flooding and long periods of inundation.	Not Expected
<i>Rana draytonii</i> California red-legged frog	FT, CH, SSC	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation up to 1,500 meters (almost one mile) in elevation. Range extends from Redding to Baja California, Mexico with hybridization occurring with the California red-legged frog from the Oregon border to Marin County. Breeding occurs between November and April in standing or slow moving water at least 0.7 meters (about 2.5 ft) in depth with emergent vegetation, such as cattails (<i>Typha</i> spp.), tules (<i>Scirpus</i> spp.) or overhanging willows (<i>Salix</i> spp.).	No known records from Yolo County. Suitable habitat onsite (ponds) are inhabited by multiple predators such as <i>Gambusia</i> and bullfrogs.	Not Expected

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Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Amphibians — continued				
<i>Spea hammondi</i> Western spadefoot toad	SSC	Inhabits shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands. Its range includes the Sierra Nevada foothills, Central Valley, Coast Ranges, and coastal counties in southern California.	No suitable habitat present onsite. No CNDDDB records from within five miles of Project site.	Not Expected
Reptiles				
<i>Actinemys marmorata</i> Western pond turtle	SSC	Found at permanent or nearly permanent bodies of water and low gradient, slow-moving streams below 6,000 ft elevation. Range extends from Washington to the northern Bay Area counties along the Pacific slope drainages. Two recognized subspecies: the northwestern pond turtle (<i>A. m. marmorata</i>), which ranges north of the American River and the southwestern pond turtle (<i>A. m. pallida</i>), which ranges from the coastal areas south of San Francisco. Subspecies interbreed within the gradation zone that defines the two subspecies.	Suitable aquatic and upland habitat is present onsite. Species has been documented from Yolo Bypass.	Observed on Project site
<i>Thamnophis gigas</i> Giant garter snake	FT, ST	The most aquatic of California garter snakes, this species prefers freshwater marshes and low-gradient streams. It has adapted to drainage canals and irrigation ditches predominantly in the Central Valley.	Suitable aquatic habitat is present on Project area. Site may provide summer habitat, though winter inundation would reduce overall habitat suitability for this species.	Possible (High)
Birds²				
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	SSC	Found in large numbers in the Central Valley and vicinity. Largely endemic to California. Nests in emergent vegetation within aquatic and riparian habitats. Breeding begins in March; double-brooded.	Suitable nesting habitat present in freshwater marsh habitat. Species has been documented from between one and five miles from Project site. Has also been observed onsite.	Observed on Project site
<i>Ammodramus savannarum</i> Grasshopper sparrow	SSC	Occupies dense grasslands (preferably native) on rolling hills, lowland plains and valleys, and on lower mountain slopes.	Breeding records confirmed from Yolo Bypass (Shuford and Gardali 2008).	Observed on Project site

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Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Birds² — continued				
<i>Ardea alba</i> Great egret (nesting colony)	Other	Inhabits a variety of aquatic habitats including shores, tidal flats, marshes, swamps, ponds, lakes, rivers, and streams. Nests found colonially in large trees near water bodies. Breeding begins in March; single-brooded.	No suitable nesting habitat is present onsite. No known rookery detected on the Project site or within a five-mile radius. Species does use Project site for foraging (observed).	Not Expected (nesting colony)
<i>Ardea herodias</i> Great blue heron (nesting colony)	Other	Occurs in a variety of aquatic habitats including shores, tidal flats, marshes, swamps, ponds, lakes, rivers, and streams. Nests found colonially in large trees near water bodies. Breeding begins in March; single-brooded.	No suitable nesting habitat is present onsite. No known rookery on Project site or within a five-mile radius. Species uses Project site for foraging (observed).	Not Expected (nesting colony)
<i>Asio flammeus</i> Short-eared owl (nesting)	SSC	Inhabits open grasslands, prairies, marshes, and agricultural fields with sufficient cover and abundant small mammal prey. Nests on the ground in a shallow depression. Breeding begins in April; single-brooded.	Project site supports fields and sufficient cover to support nesting owls. Flushed from eucalyptus tree in southwest corner of the "Island" during 2010 site visit.	Observed on Project site
<i>Athene cucularia</i> Burrowing owl	SSC	Nests in small mammal burrows that are in or adjacent to open dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	Little to no suitable nesting habitat present due to periodic flooding, but possible on adjacent levees. No known records of the species from within the Project site.	Not Expected
<i>Athene cucularia hypugaea</i> Western burrowing owl	SSC	Occurs in level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows. Found in lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas.	Not detected during 2010 breeding season surveys. Few to no burrows within Project site. Nearest CNDDDB records for this species is within a 0.3-mile area from the Project site.	Possible (Low)
<i>Aythya americana</i> Redhead	SSC	Nests in freshwater emergent wetlands with dense stands of cattails and tules interspersed with deep open water as solitary nesters. In winter and during migration, redheads forage and rest on deep bodies of water.	Suitable habitat is present in the Duck Pond onsite. A few nesting pairs per season have been observed in the Yolo Bypass Wildlife Area (Shuford and Gardali 2008).	Possible (Moderate)

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Birds² — continued				
<i>Botaurus lentiginosus</i> American bittern	Other	Inhabits freshwater marshes, and occasionally salt marshes. Breeds in California, west of the Sierra Nevada, and in the southern portion of its range.	Suitable foraging and nesting habitat within the Project site. Recent observations of individuals noted in Davis wetlands and Fazio Yolo Bypass Wildlife area (California Department of Fish and Game 2008).	Possible (Low to Moderate)
<i>Buteo regalis</i> Ferruginous hawk	SSC	Inhabits open terrain in plains and foothills where prey is available. Does not nest in California; winter visitor along the coast from Sonoma to San Diego counties, eastward to the Sierra Nevada foothills and southeastern deserts, the Inyo-White mountains, the plains east of the Cascade Range, and Siskiyou County.	Species would occur at the Project site as a winter migrant only.	Not Expected
<i>Buteo swainsoni</i> Swainson's hawk	ST	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields in Lower Sacramento and San Joaquin valleys, Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, and Yolo County.	Suitable foraging habitat present onsite. Nests in Yolo Bypass and surrounding area have been found. Documented from within one mile of the Project site.	Observed on Project site
<i>Charadrius montanus</i> Mountain plover	FPT, SSC	Occupies open plains or rolling hills with short grasses or very sparse vegetation; nearby bodies of water are not needed; may use newly plowed or sprouting grain fields. Does not breed in California; in winter, found in the Central Valley south of Yuba County, along the coast in parts of San Luis Obispo, Santa Barbara, Ventura, and San Diego counties; as well as in parts of Imperial, Riverside, Kern, and Los Angeles counties.	Although species can occur in Yolo County, no incidental observations have been noted (Shuford and Gardali 2008, California Department of Fish and Game 2010). Species would occur only during winter when Project site is not flooded.	Possible (Low)
<i>Chlidonias niger</i> Black tern	SSC	Occupies areas on freshwater lakes, ponds, marshes, and flooded agricultural fields for nesting sites; utilizes coastal lagoons and estuaries during migration.	Several nesting pairs in Yolo County and small breeding populations in neighboring counties. Migratory records noted from wetlands and flooded rice fields in the Yolo Bypass.	Possible (Low to Moderate)

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Birds² — continued				
<i>Circus cyaneus</i> Northern harrier (nesting)	SSC	Inhabits both freshwater and saltwater marshes, as well as adjacent upland grasslands. Nests on the ground in tall grasses in grasslands and meadows. Breeds starting in March with single brood.	Suitable nesting and foraging habitat is present onsite. Observed on the Project site.	Observed on Project site
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FC, SE	Found in wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak/riparian habitats where scrub jays are abundant. Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado rivers.	Limited suitable nesting habitat is present onsite. No known records of this species from the Project site.	Possible (Low)
<i>Elanus leucurus</i> White-tailed kite (nesting)	FP	Inhabits grasslands, agriculture fields, oak woodlands, savannah, and riparian habitats in rural and urban areas. Feeds primarily on California voles. Year-round resident of central and coastal California. Breeding begins in February; sometimes double-brooded.	Suitable nesting habitat is present onsite in the mature trees in riparian areas. No observations noted during 2010 field surveys. Closest identified nest site is in Davis.	Possible (Low)
<i>Falco columbarius</i> Merlin (wintering)	SSC	Winters throughout California, breeds in northern states, Canada and Alaska. Wintering habitat includes open forests, grasslands, agricultural fields, mud flats and urban areas. Feeds primarily on small birds. Breeding begins in May; single-brooded.	Species would occur at Project site as a winter migrant only.	Possible (Low)
<i>Falco peregrinus</i> American peregrine falcon (nesting)	Delisted FP, SE	Occurs as a typically year-round resident in California and most commonly along the coast. Nests on cliffs, but frequently uses man-made structures such as bridges and buildings. Nests are generally located close to water bodies with abundant avian prey. Breeding begins in March; single-brooded.	No suitable nesting habitat is present onsite. Occasionally observed in Yolo Bypass during winter.	Not Expected
<i>Grus canadensis canadensis</i> Lesser sandhill crane	SSC	Winters in the Central Valley, using grain fields near shallow bodies of water as habitat.	Suitable winter habitat present in Project site, though species not documented from area.	Not Expected

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Birds² — continued				
<i>Grus canadensis tabida</i> Greater sandhill crane	ST	Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within four miles of a shallow body of water used as a communal roost site per CNDDDB records.	Suitable wintering habitat present in Lower Yolo Bypass, but no species observed on the Project site.	Not Expected
<i>Haliaeetus leucocephalus</i> Bald eagle (nesting & wintering)	FT, FPD FP, SE	Winters at lakes, reservoirs, river systems and some rangelands and coastal wetlands. Nests in large conifers near aquatic sources. Breeding begins in May; single-brooded.	Presence onsite would be as a winter migrant only. Cache Creek Canyon is an important wintering area for bald eagles.	Not Expected
<i>Lanius ludovicianus</i> Loggerhead shrike (nesting)	SSC	Inhabits open grasslands and scrub, woodlands, and riparian areas. Is a year-round California resident. Breeding begins in February; double- to triple-brooded.	Suitable nesting and foraging habitats are present in the agricultural fields and riparian habitat within and adjacent to the Project site.	Possible (Low to Moderate)
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST, FP	Found in tidal marshes, freshwater wetlands, and marshes. Wintering habitat similar to breeding habitat. Breeding begins in March; sometimes double-brooded.	Suitable breeding/wetland habitat present onsite. No known records of this species within Yolo County.	Not Expected
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow	SSC	Known as a year-round occupant of low tidally influenced habitats adjacent to ruderal areas, and moist grasslands along the northern California from 13 km to 16 km (about eight to ten miles) inland.	Yolo County is outside the range of this subspecies; however, observers have reported breeding as far as 40 km (about 25 miles) inland near Lake Berryessa (Shuford and Gardali 2008).	Not Expected
<i>Pelecanus erythrorhynus</i> American white pelican	SSC	Nests in colonies at Clear Lake, Sheepy Lake (near border of northern California and Oregon), and in the Klamath Basin. Forage in flocks in shallow inland waters and coastal marine habitats.	This species does not breed in Yolo County. Occurs as a winter visitor to Yolo Bypass. Observed flying over the site.	Not Expected
<i>Phalacrocorax auritus</i> Double-crested cormorant (nesting colony)	SSC	Occurs along rocky coastlines, beaches, inland ponds, and lakes and nests in riparian forests or on protected islands. Winters along the California coast and over the Coast Ranges into the Central Valley; also breeds in the San Francisco Bay area and in Yolo and Sacramento counties.	No suitable nesting habitat found onsite, but suitable foraging habitat is present. Species does use Project site for foraging (observed).	Not Expected (nesting colony)

Table C-2. List of Special-status Wildlife Observed or Potentially Occurring within the Lower Yolo Restoration Project Area

Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Birds² — continued				
<i>Riparia riparia</i> Bank swallow (nesting)	ST	Nests in colonies in vertical banks with friable soils. Breeds from April to August. Most of California's nesting colonies occur along the upper Sacramento River. Breeding begins in April; double-brooded.	Marginally suitable, vertical bank nesting habitat is present on and adjacent to channels on the Project site.	Possible (Low to Moderate)
<i>Xanthocephalus xanthocephalus</i> Yellow-headed blackbird	SSC	Breeds almost exclusively in marshes with tall emergent vegetation over relatively deep water (0.6-1.2 meters or about two to four ft). Scarce breeders in the Sacramento Valley.	Suitable nesting habitat present in freshwater marsh habitat within Project site. Species does breed in the Yolo Bypass region. Two small colonies occur in Yolo County annually (Shuford and Gardali 2008).	Possible (Low to Moderate)
Mammals				
<i>Antrozous pallidus</i> Pallid bat	SSC	Inhabits deserts, grasslands, shrub lands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Man-made roosts are also used.	Riparian and stream habitat provides suitable foraging and roosting habitat.	Possible (Low)
<i>Corynorhinus (=Plecotus) townsendii townsendii</i> Townsend's western big-eared bat	SSC WBWG-H	Inhabits caves and mines, but may also use bridges, buildings, rock crevices, and tree hollows in coastal lowlands, cultivated valleys, and nearby hills that are characterized by mixed vegetation throughout California below 3,300 meters (or 10,827 ft). Exhibits high site fidelity and is highly sensitive to disturbance. Forages along edge habitats near water; may travel long distances during foraging bouts.	Riparian and stream habitat provides suitable foraging and roosting habitat.	Possible (Low)

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Species Name and Common Name	Listing Status ¹	Habitat Requirements and Additional Notes	Habitat Suitability and Local Distribution	Potential for Occurrence
Mammals — continued				
<i>Myotis yumanensis</i> Yuma myotis bat	WBWG- LM	Ubiquitous throughout California. Inhabits riparian areas near permanent water sources. Roosts in a variety of habitats including bridges, buildings, caves, mines, cliff crevices, and trees. Forages above water and in riparian areas.	Riparian and stream habitat provides suitable foraging and roosting habitat.	Possible (Low)

¹ Explanation of State and Federal Listing Codes**Federal listing codes:**

FE = Federally-listed as endangered
 FT = Federally-listed as threatened
 FPE = Federally-proposed for listing as endangered
 FPT = Federally-proposed for listing as threatened
 FPD = Federally-proposed for delisting
 FC = Federal candidate species (former category 1 candidates)
 SC = Species of concern (National Marine Fisheries Service regulated species only)

California listing codes:

SE = State-listed as endangered
 ST = State-listed as threatened
 SR = State-listed as rare
 SCE = State candidate for listing as endangered
 SCT = State candidate for listing as threatened
 SSC = Species of special concern
 FP = Fully protected

Other listing codes:

CH = Critical habitat (proposed or final) is designated.

AFS = American Fisheries Society (AFS) identifies marine, estuarine and diadromous fish species that are at risk of extinction in North America. The AFS has designated the following four classifications in order of conservation importance E – endangered, T – threatened, V – vulnerable, and CD – conservation dependent.

WBWG = Western Bat Working Group. H – High priority indicates species that are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats; M – medium priority indicates a lack of information to assess the species' status; L – low priority indicates relatively stable populations based on available data. The WBWG also uses intermediary designations including MH – medium-high and LM – low-medium priorities.

For specific species:

American bittern = Listed by the US Fish and Wildlife Service as a Nongame Species of Management Concern in 1987 and included on the National Audubon Society's Blue List in 1976.

² All bird species listed in this table are identified as migratory birds covered under the federal Migratory Bird Treaty Act.

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Appendix D

Agricultural Land Evaluation and Site Assessment Model Evaluation

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LESA Model Project Area Evaluation Lower Yolo Restoration Project

Technical Report

August 15, 2011

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Project No. 1150

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LESA Model Project Area Evaluation Lower Yolo Restoration Project

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LESA Model Project Area Evaluation

Lower Yolo Restoration Project

1 Introduction

The Lower Yolo Restoration Project (Project) is proposed as a tidal restoration effort in Yolo County by the State and Federal Contractors Water Agency. To evaluate the potential conversion of a portion of existing agricultural lands at Yolo Ranch and Yolo Flyway Farms to tidal marsh habitat, the California Agricultural Land Evaluation and Site Assessment (LESA) Model was used (California Department of Conservation 1997). The Project site was evaluated within the context of the full Project build out (i.e., both Phases 1 and 2), using both conservative (Option 1) and aggressive (Option 2) approaches of evaluating the Project site's water resources availability. These two approaches were used to evaluate the two scenarios of water resource availability under drought and non-drought years, as well as to yield a range of applicable project scores to determine any possible significance of agricultural land conversion. Project-related agricultural land conversions were determined to be less than significant under both Options 1 and 2.

This report summarizes the LESA evaluation of the Project. A full description of modeling methods can be found in The California Land Evaluation and Site Assessment Model Instruction Manual (California Department of Conservation 1997), which was strictly adhered to for this evaluation. The LESA model worksheets for this Project are provided in **Exhibit A**.

2 LESA Model Background

The information in this section is summarized from The California Land Evaluation and Site Assessment Model Instruction Manual (California Department of Conservation 1997). The LESA Model provides a standardized approach for rating the relative quality of land resources, specifically agricultural resources, based upon geographic measurable site features, and determining if project-related losses of these resources constitute a significant impact under the California Environmental Quality Act (CEQA).

California developed a unique LESA Model after the passage of the Senate Bill 850 (Chapter 812/1993), which required an amendment to Appendix G of the *State CEQA Guidelines* concerning the significance ranking of agricultural land conversions. This amendment provides “lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process” (Public Resources Code Section 21095).

California's LESA model determines an overall significance ranking from a total of six factors, broken into Land Evaluation and Site Assessment components. The two Land

LESA Model Project Area Evaluation

Lower Yolo Restoration Project

Evaluation factors are measures of site soil quality, as mapped and classified by the Natural Resources Conservation Service (NRCS) soil surveys. The remaining four Site Assessment components evaluate project size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. These six factors are each given a value between 0 and 100 and then weighted relative to one another and summed to yield a final score on a 100-point scale. This final project score becomes the basis for determining the potential significance of project impacts upon agricultural resources, based upon a range of established scoring thresholds.

3 Summary of Modeling Factors and Assumptions

General Strategy

The evaluation on the significance in agricultural land conversion to wetlands was conducted on the proposed Project site using the LESA Model. This analysis was undertaken in the context of currently irrigated or non-irrigated agricultural fields to be removed from agricultural use and converted to proposed restored tidal wetlands (including tidal channels), proposed restored seasonal floodplain and wetlands (including the First Step area), and proposed toe berm footprint (**Figure 1**). These combined units comprise what is repeatedly referred to as the “Project area” in the rest of this report and the associated LESA Model worksheets (**Exhibit A**).

Land Evaluation Factors

Both Land Evaluation factors, the Land Capability Classification Rating and the Storie Index Rating, are derived from the quality of the soil underlying the Project area. The soil types and corresponding classifications for both factors were determined from NRCS soil maps (**Figure 1**) and associated classification tables (USDA 1972). Both the Yolo County-based Land Capability Classification (LCC) Rating and the Storie Index Rating tables were accessed through the Yolo County website (<http://www.ca.nrcs.usda.gov/mlra02/yolo/how2web.html>) and are in **Exhibit B**.

The Yolo LCC ratings differed between irrigated and non-irrigated soils for only one soil type found within the Project area: Pescadero (Pc) soils. The LCC yields a Class IVw for irrigated soils and a ranking of 40, but if the soils are non-irrigated the class designation decreases to Class VIw and yields a lower ranking of 10. For this analysis, all 420 acres of Pc soils within the Project area were assumed to be irrigated, although roughly 15 acres are non-irrigated soils (**Figures 1 and 2**). As these 15 acres are a minor percentage of the extent of Pc soils (< 4 percent), analyzing the two irrigated and non-irrigated Pc soils independently does not change the final LCC rating or Land Evaluation sub-score. No other assumptions were necessary in computing these factors as

LESA Model Project Area Evaluation

Lower Yolo Restoration Project

all necessary information was available for analysis. All soils found on the site were Class IV, which yields relatively poor agricultural soil quality and correspondingly, a low Land Evaluation sub-score.

Site Assessment Factors

Water Resources Availability Ranking

Only under this component of Water Resource Availability, the conservative Option 1 and aggressive Option 2 evaluations differ. Ranking of Water Resource Availability is determined by the feasibility of irrigation on both irrigated and non-irrigated fields independently, and the possible occurrence of physical and economic restrictions during both drought and non-drought years. Due to the Project's location within the Yolo Bypass, limitations exist regarding growing crops and utilizing the land for cattle grazing. The seasonality of intensive flood inundation throughout the Yolo Bypass restricts land owners within the bypass from growing any winter or year-round crops, including all high-value crops utilizing orchards, vineyards, or winter planting. The Yolo Bypass was designed to prevent flooding of the City of Sacramento and other nearby cities and farmland by diverting up to 455,000 cubic feet per second of floodwaters through the Fremont and Sacramento weirs.

Even if yearly flows from the Sacramento River and other upstream inputs are low enough to substantially reduce inundation intervals (i.e., during some drought years), legislative and regulatory requirements direct the U.S. Army Corps of Engineers and the Central Valley Flood Protection Board to limit agricultural operations during the winter within the Yolo Bypass. Therefore, it is assumed for the LESA model that irrigation is feasible throughout the Project area, but the site also has water resource-related restrictions to irrigation and agricultural practices both in drought and non-drought years. It is this assumption of water resource availability that was evaluated for in Option 1 and is considered the conservative analysis approach.

The Option 2 approach assumes the same conditions of Option 1 during non-drought years but assumes that irrigation may become infeasible during drought years due to such restrictions. Possible drought year restrictions include diminished inflow water quality and inflow volume restrictions due to availability of water, water rights, and other physical conditions throughout the Bypass. Option 2 and its associated ranking are considered aggressive, but reasonable, as these risks though not confirmed could be a possibility.

Zone of Influence

The Zone of Influence (ZOI) adds value to the Project area, when a large percentage of the Project's surrounding lands are agricultural and/or protected resource lands. The ZOI

LESA Model Project Area Evaluation

Lower Yolo Restoration Project

was derived following the guidelines as set forth by the Instruction Manual (California Department of Conservation 1997). The parcel data provided in 2010 by Yolo County was used for measuring and determining adjacent parcels within the ZOI. All ZOI parcels north, east, and west of the Project site were considered agricultural parcels, excluding those associated with the Sacramento River Deep Water Ship Channel and its levees. All ZOI parcels south of the Project area and contiguous with the wetland restoration areas such as Little Holland Tract, Liberty Island, and/or other properties owned by state and federal agencies were considered protected resource lands (Figure 3).

4 Model Results

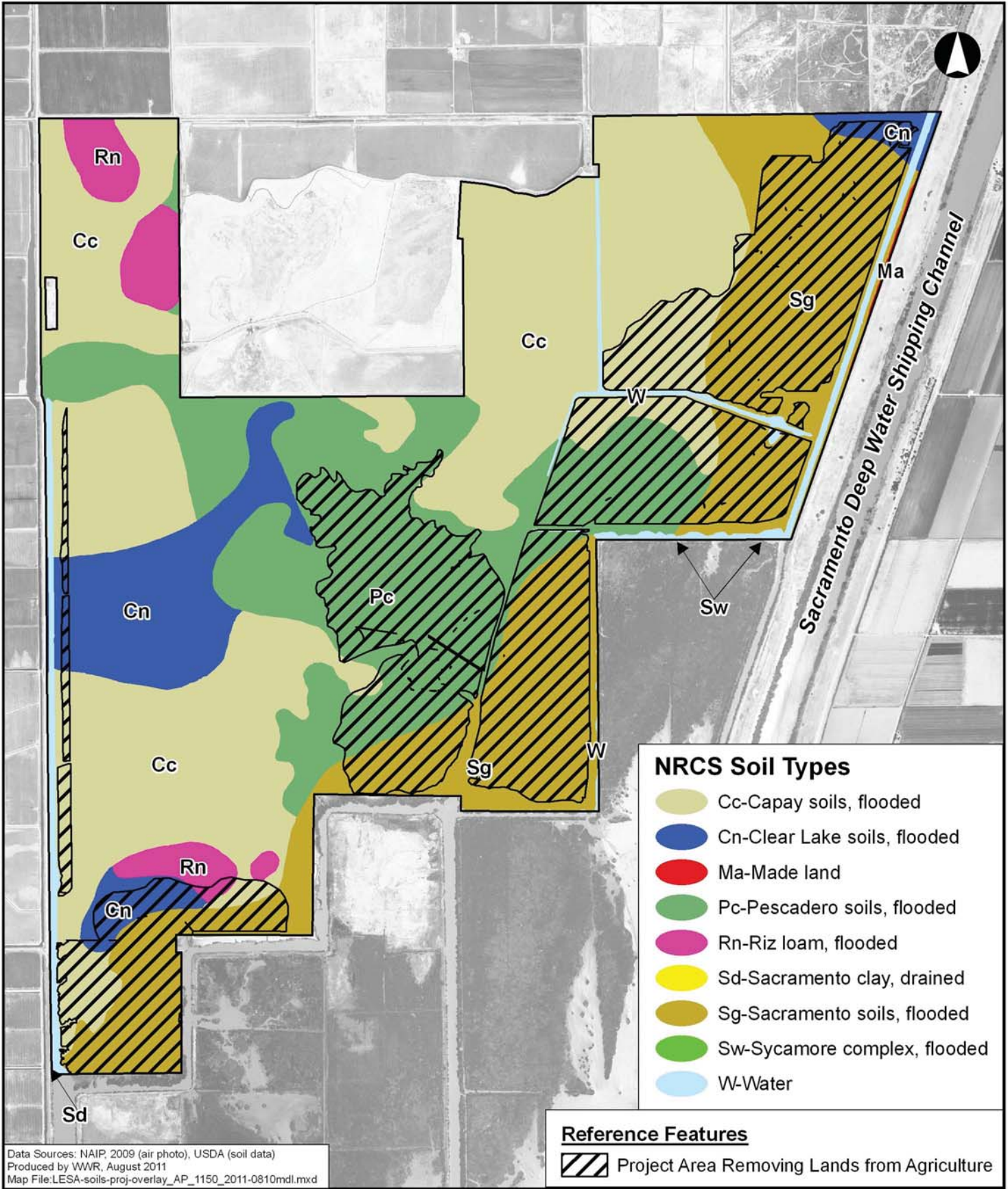
The final Project LESA values for Options 1 and 2 were 49 and 43, respectively. Under both scenarios, the Land Evaluation sub-score (which is independent of water resource availability) was 14. According to the significance thresholds of the LESA Model, any final Project area score between 40 – 59 points is considered a significant agricultural land conversion *only if* the Land Evaluation sub-scores are each greater than or equal to 20. Since the Land Evaluation sub-score was less than 20 points under both Options 1 and 2 model scenarios, agricultural land conversion due to the proposed Project, according to the California Agricultural LESA Model, is *less-than-significant*.

5 References

- California Department of Conservation. 1997. *California Agricultural Land Evaluation and Site Assessment Model: Instruction Manual*.
- U.S. Department of Agriculture (USDA). 1972. *Soil Survey of Yolo County, CA*.

Figures

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SFCWA
 State & Federal Contractors
 Water Agency

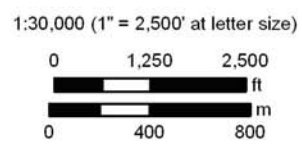
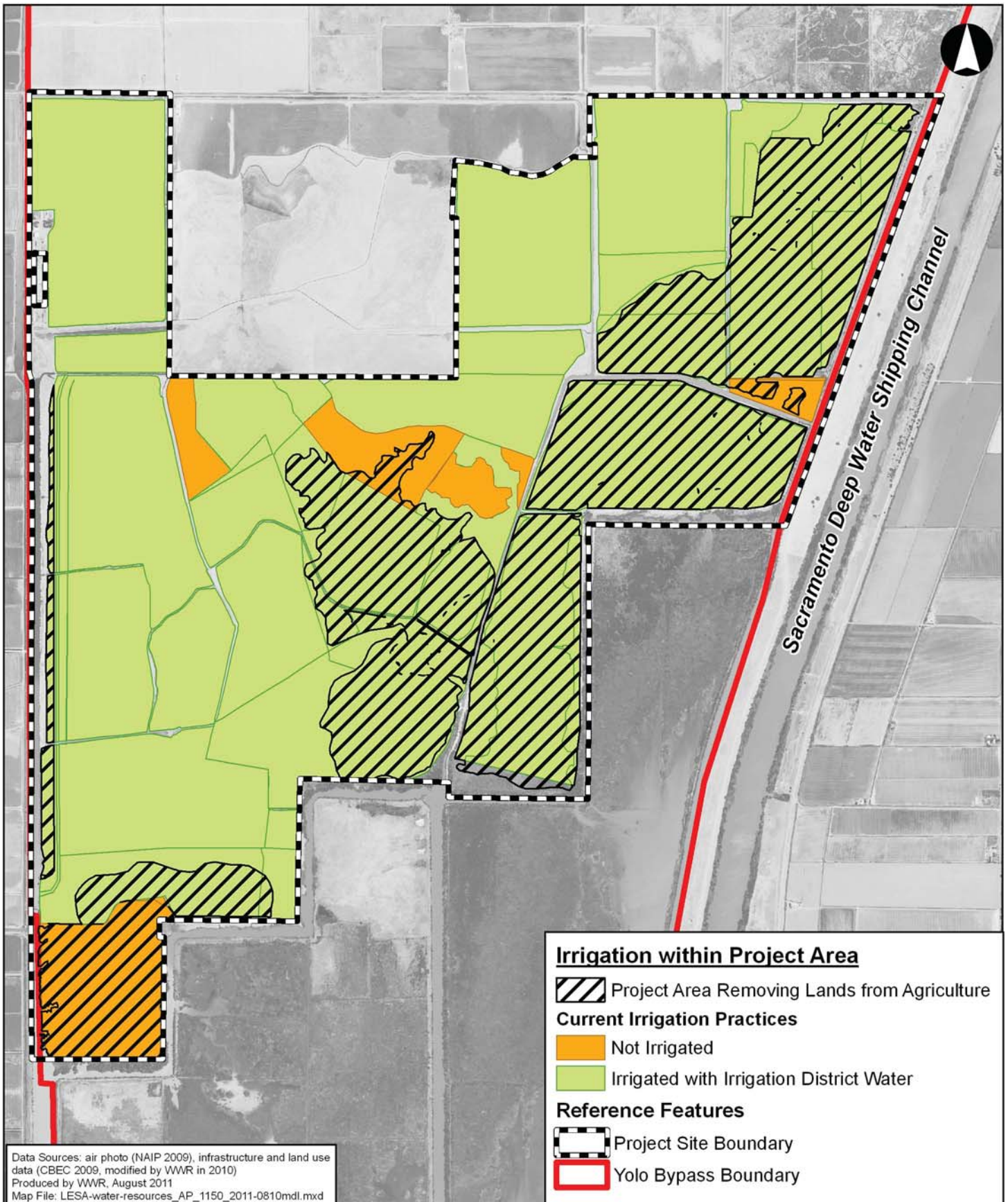


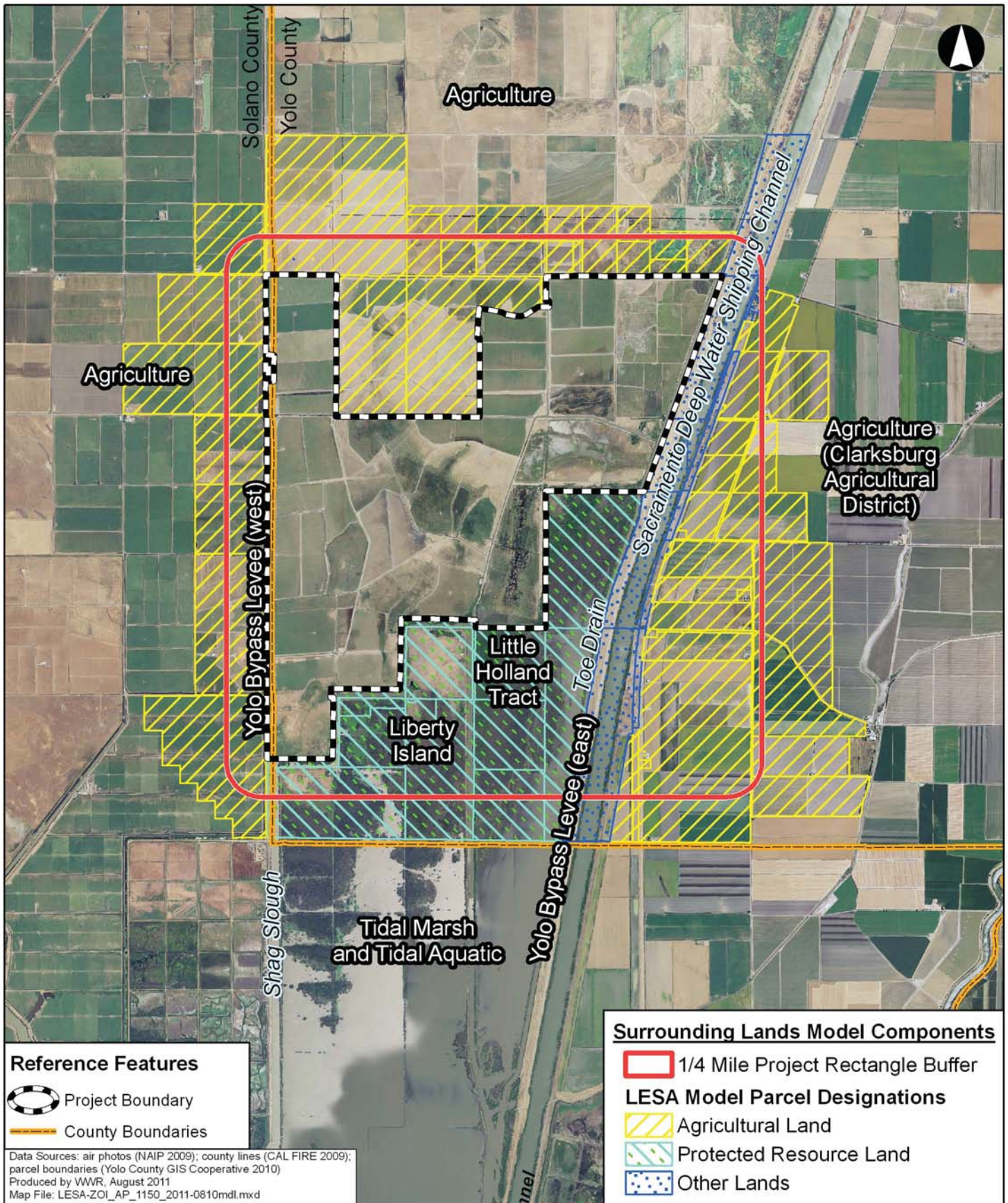
Figure 1
NRCS Soils and Project Area Overlay LESA Model



1:30,000 (1" = 2,500' at letter layout)



Figure 2
Water Resources
LESA Model



1:60,000 (1" = 5,000' at letter layout)



Figure 3

**Zone of Influence
LESA Model**



SFCWA
State & Federal Contractors
Water Agency

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Exhibit A:

LESA Model Evaluation Worksheets

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NOTES

Calculation of the Land Evaluation (LE) Score

Part 1. Land Capability Classification (LCC) Score:

- (1) Determine the total acreage of the project.
- (2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-A.
- (3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
- (4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
- (5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
- (6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	I	Ile	Ils,w	IIle	IIls,w	IVe	IVs,w	V	VI	VII	VIII
Points	100	90	80	70	60	50	40	30	20	10	0

- (7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
- (8) Sum the LCC scores in **Column F**.
- (9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-A.

Part 2. Storie Index Score:

- (1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
- (2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
- (3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
- (4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-A.

Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A	B	C	D	E	F	G	H
Soil Map Unit	Project Acres	Proportion of Project Area	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Cc	195.10	0.140	IVw	40	5.609	34	4.768
Cn	50.67	0.036	IVw	40	1.457	31	1.129
Pc, i*	420.90	0.303	IVw	40	12.101	15	4.538
Rn	4.17	0.003	IVw	40	0.120	24	0.072
Sg	718.19	0.516	IVw	40	20.649	30	15.486
W	2.23	0.002	--	0	0	0	0
Totals	1,391.3	(Must Sum to 1.0)		LCC Total Score	40	Storie Index Total Score	26

*This evaluation corresponds to the capability classification of irrigated Pescadero (Pc) soils. Roughly 96% of the Pescadero soils within the Project Area are irrigated, with less than 4% unirrigated. This evaluation only slightly overvalues the overall Pc soil score, but does not effect the total LCC score for the project area.

Site Assessment Worksheet 1.

Project Size Score

	I	J	K
	LCC Class I - II	LCC Class III	LCC Class IV - VIII
			195.10
			50.67
			420.90
			4.17
			718.19
Total Acres	0	0	1,389.03
Project Size Scores	0	0	100

Highest Project Size Score

100

NOTES

Calculation of the Site Assessment (SA) Score

Part 1. Project Size Score:

- (1) Using **Site Assessment Worksheet 1** provided on page 2-A, enter the acreage of each soil type from **Column B** in the **Column - I, J or K** - that corresponds to the LCC for that soil. (Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed beside it).
- (2) Sum **Column I** to determine the total amount of class I and II soils on the project site.
- (3) Sum **Column J** to determine the total amount of class III soils on the project site.
- (4) Sum **Column K** to determine the total amount of class IV and lower soils on the project site.
- (5) Compare the total score for each LCC group in the Project Size Scoring Table below and determine which group receives the highest score.

Project Size Scoring Table

Class I or II		Class III		Class IV or Lower	
Acreage	Points	Acreage	Points	Acreage	Points
>80	100	>160	100	>320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

- (6) Enter the **Project Size Score** (the highest score from the three LCC categories) in box <3> of the **Final LESA Score Sheet** on page 10-A.

NOTES

Part 2. Water Resource Availability Score:

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified, and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 2. - Water Resources Availability

Option 1

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	irrigation district water	0.88	75	66
2	not irrigated	0.12	75	9
3				
4				
5				
6				
		(Must Sum to 1.0)	Total Water Resource Score	75

Site Assessment Worksheet 2. - Water Resources Availability

Option 2

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	irrigation district water	0.88	35	31
2	not irrigated	0.12	35	4
3				
4				
5				
6				
		(Must Sum to 1.0)	Total Water Resource Score	35

Water Resource Availability Scoring Table

Option	Non-Drought Years			Drought Years			WATER RESOURCE SCORE
	RESTRICTIONS			RESTRICTIONS			
	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	Irrigated Production Feasible?	Physical Restrictions ?	Economic Restrictions ?	
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

Assumptions of
Option 1

Assumptions of
Option 2

NOTES

Part 3. Surrounding Agricultural Land Use Score:

- (1) Calculate the project's Zone of Influence (ZOI) as follows:
 - (a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.
 - (b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.
 - (c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.
- (2) Sum the area of all parcels to determine the total acreage of the ZOI.
- (3) Determine which parcels are in agricultural use and sum the areas of these parcels
- (4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.
- (5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

Surrounding Agricultural Land Scoring Table

Percent of ZOI in Agriculture	Surrounding Agricultural Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 3.

Surrounding Agricultural Land and Surrounding Protected Resource Land

A	B	C	D	E	F	G
Zone of Influence						
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)	Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
9,433	6,317	2,109	0.67	0.22	60	0

NOTES

Part 4. Protected Resource Lands Score:

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

- (1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.
- (2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.
- (3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.
- (4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

Surrounding Protected Resource Land Scoring Table

Percent of ZOI Protected	Protected Resource Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

- (5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-A.

NOTES

Final LESA Score Sheet Option 1

Calculation of the Final LESA Score:

- (1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
- (2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
- (3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
- (4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

		Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors				
Land Capability Classification	<1>	31	0.25	10
Storie Index	<2>	26	0.25	6
<i>LE Subtotal</i>			0.50	16
SA Factors				
Project Size	<3>	100	0.15	15
Water Resource Availability	<4>	75	0.15	11
Surrounding Agricultural Land	<5>	60	0.15	9
Protected Resource Land	<6>	0	0.05	0
<i>SA Subtotal</i>			0.50	35
Final LESA Score				52

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.

NOTES

Final LESA Score Sheet Option 2

Calculation of the Final LESA Score:

- (1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
- (2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
- (3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
- (4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

		Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors				
Land Capability Classification	<1>	31	0.25	10
Storie Index	<2>	26	0.25	6
<i>LE Subtotal</i>			0.50	16
SA Factors				
Project Size	<3>	100	0.15	15
Water Resource Availability	<4>	35	0.15	5
Surrounding Agricultural Land	<5>	60	0.15	9
Protected Resource Land	<6>	0	0.05	0
<i>SA Subtotal</i>			0.50	29
Final LESA Score				46

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.

Exhibit B:

NRCS Soil Characteristics Tables

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Yolo County, California
 Table 1.--Storie Index

The California Storie Index expresses numerically the relative degree of suitability of a soil for general intensive agricultural uses at the time of evaluation. The rating is based on soil characteristics only and is obtained by evaluating such factors as soil depth, texture of the surface soil, subsoil characteristics, and surface relief.

Map symbol and soil name	Storie Index
AaA: Arbuckle -----	68
AaB: Arbuckle -----	64
BaD3: Balcom -----	29
BaE2: Balcom -----	43
BaF2: Balcom -----	22
BaG3: Balcom -----	7
BdF2: Balcom -----	22
Dibble -----	19
BrA: Brentwood -----	81
Ca: Capay -----	50
Cb: Capay -----	35
Cc: Capay -----	34
Ch: Clear lake -----	61
Ck: Clear lake -----	41
Cn: Clear lake long flooding duration-----	31
Clear lake brief flooding duration-----	31
CrE2: Climara -----	26
CtD2: Corning -----	25
CtE2: Corning -----	21
DaF2: Dibble -----	19
DaG2:	

Dibble -----	11
DbE2:	
Dibble -----	35
Millsholm -----	26
DbF2:	
Dibble -----	19
Millsholm -----	11
DbG2:	
Dibble -----	11
Millsholm -----	7
GP:	
Gravel pits -----	
HcA:	
Hillgate -----	54
HcC2:	
Hillgate -----	49
HdA:	
Hillgate -----	63
HdC:	
Hillgate -----	60
La:	
Lang -----	65
Lb:	
Lang -----	58
Lc:	
Lang -----	29
Ld:	
Lang -----	61
Lg:	
Laugenour -----	81
Lh:	
Laugenour -----	41
Lk:	
Laugenour -----	36
Lm:	
Loamy alluvial land -----	59
M-W:	
Miscellaneous water -----	
Ma:	
Made land -----	
Mb:	
Maria -----	90
Mc:	
Maria -----	43
Md:	
Maria -----	81

Mf:	Marvin -----	65
Mk:	Merritt -----	65
Mn:	Merritt -----	36
Mo:	Merritt -----	65
Mp:	Merritt -----	27
	Merritt -----	34
MrG2:	Millsholm -----	8
Ms:	Myers -----	51
Oa:	Omni -----	62
Ob:	Omni -----	39
Pa:	Pescadero -----	35
Pb:	Pescadero -----	14
Pc:	Pescadero -----	15
PfE2:	Positas -----	24
PfF2:	Positas -----	13
PfF3:	Positas -----	10
Ra:	Reiff -----	100
Rb:	Reiff -----	71
Rg:	Rincon -----	73
Rh:	Riverwash -----	
Rk:	Riz -----	45
Rn:	Riz -----	24
RoG:	Rock land -----	5
Sa:	Sacramento -----	65

Sb:	Sacramento -----	73
Sc:	Sacramento -----	38
Sd:	Sacramento -----	46
Se:	Sacramento -----	34
Sf:	Sacramento -----	41
Sg:	Sacramento -----	30
Sh:	San ysidro -----	50
SkD:	Sehorn -----	41
SkE2:	Sehorn -----	29
SkF2:	Sehorn -----	14
SLD:	Sehorn -----	32
SmD:	Sehorn -----	41
	Balcom -----	62
SmE2:	Sehorn -----	29
	Balcom -----	43
SmF2:	Sehorn -----	14
	Balcom -----	22
Sn:	Soboba -----	25
So:	Sycamore -----	76
Sp:	Sycamore -----	90
Sr:	Sycamore -----	45
Ss:	Sycamore -----	65
St:	Sycamore -----	77
Su:	Sycamore -----	51
	Sycamore -----	64

Sv:		
	Sycamore -----	61
	Sycamore -----	76
Sw:		
	Sycamore -----	26
	Sycamore -----	32
TaA:		
	Tehama -----	72
TaB:		
	Tehama -----	69
Tb:		
	Tyndall -----	77
Tc:		
	Tyndall -----	81
Td:		
	Tyndall -----	38
Te:		
	Tyndall -----	69
Tf:		
	Tyndall -----	69
Va:		
	Valdez -----	81
Vb:		
	Valdez -----	77
Vc:		
	Valdez deep-----	41
	Valdez -----	41
W:		
	Water -----	
Wa:		
	Willows -----	31
Wb:		
	Willows -----	29
Wc:		
	Willows -----	10
Wd:		
	Willows -----	22
Wf:		
	Willows -----	14
Wg:		
	Willows -----	15
Wm:		
	Willows variant -----	34
Wn:		
	Willows variant -----	11
Ya:		
	Yolo -----	100

Yb:	
Yolo -----	90
Za:	
Zamora -----	95

Yolo County, California
 Table 2. Land Capability Classification

Land capability is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. LCC placement in California is based on state criteria developed in 1978, revised in 1992.

Map symbol and soil name	Land Capability	
	N	I
AaA: Arbuckle-----	4s	2s
AaB: Arbuckle-----	4s	2s
BaD3: Balcom-----	4e	4e
BaE2: Balcom-----	6e	6e
BaF2: Balcom-----	7e	---
BaG3: Balcom-----	8e	---
BdF2: Balcom-----	7e	---
Dibble-----	7e	6e
BrA: Brentwood-----	4c	1
Ca: Capay-----	4s	2s
Cb: Capay-----	4w	4w
Cc: Capay-----	4w	4w
Ch: Clear Lake-----	4s	2s
Ck: Clear Lake-----	4s	2s
Cn: Clear Lake, long flooding duration-----	4w	4w
Clear Lake, brief flooding duration-----	4w	4w
CrE2: Climara-----	4e	---
CtD2: Corning-----	6e	6e
CtE2: Corning-----	6e	---
DaF2:		

Dibble-----	6e	6e
DaG2: Dibble-----	7e	7e
DbE2: Dibble-----	4e	4e
Millsholm-----	6e	---
DbF2: Dibble-----	6e	6e
Millsholm-----	6e	---
DbG2: Dibble-----	7e	7e
Millsholm-----	7e	---
GP: Gravel Pits-----	8s	---
HcA: Hillgate-----	6s	6s
HcC2: Hillgate-----	6e	6e
HdA: Hillgate-----	4s	3s
HdC: Hillgate-----	4e	3e
La: Lang-----	4e	2w
Lb: Lang-----	4w	3w
Lc: Lang-----	4w	4w
Ld: Lang-----	4w	3w
Lg: Laugenour-----	4c	1
Lh: Laugenour-----	4w	4w
Lk: Laugenour-----	4w	4w
Lm: Loamy Alluvial Land-----	4s	4s
M-W: Miscellaneous Water-----	---	---
Ma: Made Land-----	4s	2s
Mb: Maria-----	4c	1
Mc: Maria-----	4w	4w

Md:			
	Maria-----	4s	2s
Mf:			
	Marvin-----	4s	2s
Mk:			
	Merritt-----	4w	3w
Mn:			
	Merritt-----	4w	3w
Mo:			
	Merritt-----	4s	2s
Mp:			
	Merritt-----	4w	4w
	Merritt-----	4w	4w
MrG2:			
	Millsholm-----	7e	---
Ms:			
	Myers-----	4s	2s
Oa:			
	Omni-----	4w	3w
Ob:			
	Omni-----	4w	3w
Pa:			
	Pescadero-----	6w	3w
Pb:			
	Pescadero-----	6w	4w
Pc:			
	Pescadero-----	6w	4w
PfE2:			
	Positas-----	4e	4e
PfF2:			
	Positas-----	6e	---
PfF3:			
	Positas-----	7e	---
Ra:			
	Reiff-----	4c	1
Rb:			
	Reiff-----	4s	2s
Rg:			
	Rincon-----	3s	2s
Rh:			
	Riverwash-----	8w	---
Rk:			
	Riz-----	4w	4w
Rn:			
	Riz-----	4w	4w
RoG:			
	Rock Land-----	8s	---

Sa:	Sacramento-----	4w	2w
Sb:	Sacramento-----	4s	2s
Sc:	Sacramento-----	4w	2w
Sd:	Sacramento-----	4s	2s
Se:	Sacramento-----	4w	4w
Sf:	Sacramento-----	4w	2w
Sg:	Sacramento-----	4w	4w
Sh:	San Ysidro-----	4s	4s
SkD:	Sehorn-----	4e	3e
SkE2:	Sehorn-----	4e	4e
SkF2:	Sehorn-----	4e	3e
SlD:	Sehorn-----	4e	3e
SmD:	Sehorn-----	4e	3e
	Balcom-----	4e	3e
SmE2:	Sehorn-----	4e	4e
	Balcom-----	4e	4e
SmF2:	Sehorn-----	6e	---
	Balcom-----	6e	---
Sn:	Soboba-----	4s	4s
So:	Sycamore-----	4w	2w
Sp:	Sycamore-----	4c	1
Sr:	Sycamore-----	4w	4w
Ss:	Sycamore-----	4w	2w
St:	Sycamore-----	4c	1
Su:	Sycamore-----	4w	2w

Sycamore-----	4w	2w
Sv:		
Sycamore-----	4c	1
Sycamore-----	4c	1
Sw:		
Sycamore-----	4w	4w
Sycamore-----	4w	4w
TaA:		
Tehama-----	4s	2s
TaB:		
Tehama-----	4e	2e
Tb:		
Tyndall-----	4w	2w
Tc:		
Tyndall-----	4c	1
Td:		
Tyndall-----	4w	4w
Te:		
Tyndall-----	4w	2w
Tf:		
Tyndall-----	4w	2w
Va:		
Valdez-----	4w	3w
Vb:		
Valdez-----	4w	3w
Vc:		
Valdez, deep-----	4w	4w
Valdez-----	4w	4w
W:		
Water-----	---	---
Wa:		
Willows-----	4w	2w
Wb:		
Willows-----	4w	2w
Wc:		
Willows-----	4w	4w
Wd:		
Willows-----	4w	4w
Wf:		
Willows-----	4w	4w
Wg:		
Willows-----	4w	4w
Wm:		
Willows Variant-----	4w	3w
Wn:		
Willows Variant-----	4w	4w

Ya:			
Yolo-----	4c	1	
Yb:			
Yolo-----	4c	1	
Za:			
Zamora-----	4c	1	

Appendix E

Air Quality Calculations

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Appendix E Air Quality Calculations

Introduction

Appendix E contains the assumptions, methodology, data, and results of calculations used to estimate the air emissions associated with the construction of the Lower Yolo Restoration Project (Project). Criteria air pollutant emissions inventories of the Project were computed to aid in the assessment of air quality impacts during the Project's construction phase. This appendix describes the input data and methodology used to compute the emissions inventories. Air quality impacts and analysis of the proposed Project, including greenhouse gases, are discussed in Section 4.6, Air Quality and Greenhouse Gases, in Volume 1 of the Draft Environmental Impact Report (Draft EIR).

Assumptions

Based on the description of the Project (refer to Chapter 3, Project Description, in Volume 1 of the Draft EIR) that provides a description of the types of construction equipment and vehicles needed (Section 3.4.1, Construction Personnel and Equipment), the following assumptions were relied on to carry out air quality calculations:

- The Project would be conducted over a single year, during an approximate six-month period spanning from June to November (or sooner, dependent on the onset of rain and flood inundation in the Yolo Bypass).
- Generally, the construction schedule would be six days per week and 10 hours per day with the exception of dewatering activities, if necessary.
- Approximately 25 to 50 temporary, construction workers would be necessary to carry out the proposed restoration efforts.
- The total material movement would be approximately up to 2.5 million cubic yards (mcy) should Soils Reuse Option #1 (creation of toe berm adjacent to the west Yolo Bypass levee) be selected or 2.4 mcy with the selection of Soils Reuse Option #2 (stockpile the soil within the restricted-height levee).
- With the use of 20-cy haul trucks, a total of 110,000 haul truck trips would be required. A second scenario replaces the haul trucks with scrapers. It is assumed that each haul truck would travel 2.5 (one-way trip) miles during material movement.

Criteria Pollutant Emissions Inventory Methodology

Criteria pollutants included in this assessment:

- Carbon monoxide (CO),
- Reactive organic gases (ROG),
- Nitrogen oxides (NO_x),
- Particulate matter measuring 10 micrometers or less in diameter (PM₁₀), and
- Particulate matter measuring 2.5 micrometers or less in diameter (PM_{2.5}).

Methodological details pertaining to the estimation of emissions from on-road construction vehicles, off-road construction equipment, and fugitive dust generation are discussed below.

On-road Construction Vehicles

Temporary and short-term construction emissions were modeled using Project-specific data and the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model (Version 6.3.2)¹. The use of this model is accepted in most air districts in northern and central California. The model was developed to provide timelines and equipment necessary to estimate project-related emissions based on design characteristics, materials quantities, schedule parameters and other high-level variables. The design characteristics of the proposed Project were input into the Road Construction Emissions Model to develop construction emission estimates. This program quantifies emissions from the following construction-related activity phases: grubbing/land clearing, grading/excavation, drainage/utilities/sub-grade, and paving (not included for this Project). The basis for the emission factors are the California Air Resources Board's (CARB) documentation for fugitive dust sources, CARB's OFFROAD2007 emission model² for off-road equipment, and CARB's EMFAC2007 emission model³ for haul trucks and employee motor vehicles.

In general, emissions were estimated using the activity and operational information and emission factors, which are measures of emissions that express the mass of emissions in terms of a unit of activity. For example, emission factors for construction equipment may be expressed in terms of grams of emissions (of a particular pollutant) per horsepower-hour. Horsepower-hours are the product of in-use horsepower times hours of operation times a load factor. The load factor expresses the percentage of full throttle at which an engine typically operates. Emissions can be calculated subsequently by multiplying the following terms to provide an estimate of emissions in pounds of emissions per day or tons of emissions per year: hours of operation per year (activity data), in-use horsepower (operational information), load factor and an emission factor (such as pounds per horsepower-hour).

Off-road Construction Equipment

Parameters for off-road construction equipment, including equipment and fuel type, estimated horsepower, and estimated annual hours of operation were utilized. Annual hours of off-road equipment operation were based on materials quantities and the payloads/capacities of the vehicles expected to be used. This information was applied to emissions factors, in grams per horsepower-hour, primarily derived using the CARB OFFROAD2007 emissions model.

¹ SMAQMD, 2009, *Road Construction Emissions Model*, Version 6.3.2, July 2009. <http://www.airquality.org/ceqa/index.shtml>

² CARB, 2006, OFFROAD2007 Emissions Model User's Guide, November 2006, <http://www.arb.ca.gov/msei/offroad/offroad.htm>

³ CARB, 2006a, EMFAC2007 Emissions Model User's Guide, November 2006, http://www.arb.ca.gov/msei/onroad/latest_version.htm

⁴ CARB, 2007, URBEMIS2007 Emissions Model User's Guide, June 2007, <http://www.urbemis.com/>

Fugitive Dust

Fugitive dust emissions that may occur due to construction of the proposed Project were also estimated. Although the URBEMIS model⁴ was not used directly in this analysis, it provides emissions factors and parameter assumptions that are representative of activities. Specifically, the URBEMIS model provides a worst-case, uncontrolled PM₁₀ emissions rate of 38.2 pounds per acre-day for fugitive dust emissions occurring due to travel on unpaved roads, site preparation, grading activities, wind erosion, and other land disturbance activities. The model also indicates that 20 percent of the PM₁₀ emissions occur as PM_{2.5}. Lastly, URBEMIS recommends 75 percent emissions control efficiency for fugitive dust estimates, which reflect basic and advanced mitigation measures in practice within most air districts.

Results of Calculations from Model Runs

The following pages present the results of the air quality calculations for the proposed Project from model runs, utilizing the format of the work sheets developed by the SMAQMD.

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Construction Scenario:

Site Grading and Use of Haul Trucks for Material Transport

Road Construction Emissions Model

Version 6.3.2

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells C10 through C25.



Input Type

Project Name		
Construction Start Year	2012	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	5.0	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	2.5	miles
Total Project Area	1950.0	acres
Maximum Area Disturbed/Day	15.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	15625.0	yd ³ /day
Soil Exported		yd ³ /day
Average Truck Capacity	20.0	yd ³ (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months
Grubbing/Land Clearing	2.00	0.50
Grading/Excavation	2.00	2.00
Drainage/Utilities/Sub-Grade	2.00	1.75
Paving	0.00	0.75
Totals	6.00	5.00

Please note: You have entered a different number of months than the project length shown in cell C13.

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions		User Override of					
User Input	Soil Hauling Defaults	Default Values					
Miles/round trip	5.00	30					
Round trips/day		781					
Vehicle miles traveled/day (calculated)				3906.25			
Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2	
Emission rate (grams/mile)	0.93	11.59	6.20	0.45	0.38	1868.60	
Emission rate (grams/trip)	10.89	7.79	185.47	0.02	0.01	209.04	
Pounds per day	45.5	126.5	691.6	3.9	3.3	16797.0	
Tons per construction period	1.00	2.78	15.22	0.09	0.07	369.53	

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions		User Override of Worker					
	Commute Default Values	Default Values					
Miles/ one-way trip		20					
One-way trips/day		2					
No. of employees: Grubbing/Land Clearing	20.00	14					
No. of employees: Grading/Excavation	30.00	22					
No. of employees: Drainage/Utilities/Sub-Grade	30.00	19					
No. of employees: Paving	0.00	21					
	ROG	NOx	CO	PM10	PM2.5	CO2	
Emission rate - Grubbing/Land Clearing (grams/mile)	0.135	0.244	2.515	0.033	0.018	426.920	
Emission rate - Grading/Excavation (grams/mile)	0.132	0.235	2.427	0.033	0.018	426.640	
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.132	0.235	2.427	0.021	0.018	426.640	
Emission rate - Paving (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000	
Emission rate - Grubbing/Land Clearing (grams/trip)	0.839	0.359	8.253	0.130	0.012	192.050	
Emission rate - Grading/Excavation (grams/trip)	0.809	0.343	7.916	0.130	0.012	192.280	
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.809	0.343	7.916	0.130	0.012	192.280	
Emission rate - Paving (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000	
Pounds per day - Grubbing/Land Clearing	0.386	0.493	5.886	0.081	0.034	786.123	
Tons per const. Period - Grub/Land Clear	0.008	0.011	0.129	0.002	0.001	17.295	
Pounds per day - Grading/Excavation	0.375	0.475	5.672	0.081	0.034	785.670	
Tons per const. Period - Grading/Excavation	0.008	0.010	0.125	0.002	0.001	17.285	
Pounds per day - Drainage/Utilities/Sub-Grade	0.375	0.475	5.672	0.060	0.034	785.670	
Tons per const. Period - Drain/Util/Sub-Grade	0.008	0.010	0.125	0.001	0.001	17.285	
Pounds per day - Paving	0.000	0.000	0.000	0.000	0.000	0.000	
Tons per const. Period - Paving	0.000	0.000	0.000	0.000	0.000	0.000	
tons per construction period	0.025	0.032	0.379	0.005	0.002	51.864	

Water truck default values can be overridden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values		
	Default # Water Trucks	Number of Water Trucks	Miles Traveled/Day	Miles Traveled/Day		
Grubbing/Land Clearing - Exhaust	3.00	3				120
Grading/Excavation - Exhaust	3.00	3				120
Drainage/Utilities/Subgrade	3.00	2				80
	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.97	12.07	6.48	0.47	0.39	1866.20
Emission rate - Grading/Excavation (grams/mile)	0.93	11.59	6.20	0.45	0.38	1868.60
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.92	11.59	6.20	0.45	0.38	1868.60
Pounds per day - Grubbing/Land Clearing	0.77	9.57	5.14	0.37	0.31	1479.81
Tons per const. Period - Grub/Land Clear	0.02	0.21	0.11	0.01	0.01	32.56
Pound per day - Grading/Excavation	0.74	9.19	4.91	0.36	0.30	1481.71
Tons per const. Period - Grading/Excavation	0.02	0.20	0.11	0.01	0.01	32.60
Pound per day - Drainage/Utilities/Subgrade	0.49	6.13	3.28	0.24	0.20	987.81
Tons per const. Period - Drainage/Utilities/Subgrade	0.01	0.13	0.07	0.01	0.00	21.73

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max	Default	PM10	PM10	PM2.5	PM2.5
	Acreage Disturbed/Day	Maximum Acreage/Day	pounds/day	tons/per period	pounds/day	tons/per period
Fugitive Dust - Grubbing/Land Clearing		15	150.0	3.3	31.2	0.7
Fugitive Dust - Grading/Excavation		15	150.0	3.3	31.2	0.7
Fugitive Dust - Drainage/Utilities/Subgrade		15	150.0	2.9	31.2	0.6

Off-Road Equipment Emissions

Grubbing/Land Clearing		Default	ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	Number of Vehicles	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
	<i>Program-estimate</i>							
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Rubber Tired Dozers	12.19	55.25	106.06	4.45	4.10	9343.42
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Scrapers	13.07	50.38	119.86	4.73	4.35	12178.17
10.00	5	Signal Boards	5.67	15.48	15.51	1.46	1.34	1536.36
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	30.9	121.1	241.4	10.6	9.8	23058.0
	Grubbing/Land Clearing	tons per phase	0.7	2.7	5.3	0.2	0.2	507.3

Grading/Excavation	Default		ROG	CO	NOx	PM10	PM2.5	CO2	
	Override of Default Number of Vehicles	Number of Vehicles Program-estimate							Type
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	
		0 Cranes	0.00	0.00	0.00	0.00	0.00	0.00	
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
	8.00	3 Excavators	6.30	32.58	46.98	2.78	2.56	5473.62	
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	3 Graders	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	
	16.00	Off-Highway Trucks	25.92	76.23	223.14	8.08	7.43	31193.28	
	0.00	2 Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00	
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
	4.00	Plate Compactors	0.09	0.45	0.54	0.02	0.02	74.13	
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00	
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00	
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	3 Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	2 Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	5 Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	
	12.00	Tractors/Loaders/Backhoes	2.89	32.13	18.74	0.73	0.67	4910.73	
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	
		Welders	0.00	0.00	0.00	0.00	0.00	0.00	
		Grading/Excavation	pounds per day	35.2	141.4	289.4	11.6	10.7	41651.8
		Grading	tons per phase	0.8	3.1	6.4	0.3	0.2	916.3

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate		ROG	CO	NOx	PM10	PM2.5	CO2
			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
4.00	2	Graders	4.07	19.25	31.25	1.80	1.66	3239.35
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Plate Compactors	0.13	0.68	0.81	0.03	0.03	111.20
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
4.00	2	Scrapers	8.41	32.75	76.18	3.00	2.76	8118.79
10.00	5	Signal Boards	5.40	15.24	15.13	1.38	1.27	1536.36
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Trenchers	5.55	19.35	33.77	2.90	2.67	2653.76
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	23.6	87.3	157.1	9.1	8.4	15659.5
	Drainage	tons per phase	0.5	1.9	3.5	0.2	0.2	344.5

Paving	Default		ROG	CO	NOx	PM10	PM2.5	CO2	
	Override of Default Number of Vehicles	Number of Vehicles <i>Program-estimate</i>	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
			Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
			Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
			Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
			Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
			Cranes	0.00	0.00	0.00	0.00	0.00	0.00
			Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Excavators	0.00	0.00	0.00	0.00	0.00	0.00
			Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
			Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
			Graders	0.00	0.00	0.00	0.00	0.00	0.00
			Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
			Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
			Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		3 Pavers	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		3 Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
			Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
			Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		6 Rollers	0.00	0.00	0.00	0.00	0.00	0.00
			Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
			Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
			Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
			Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0.00		5 Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
			Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
			Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
			Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
			Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
			Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Paving	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
		Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions all Phases (tons per construction period) =>				2.0	7.7	15.1	0.7	0.6	1768.1

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment	Default Values Horsepower	Default Values Load Factor	Default Values Hours/day
Aerial Lifts	60	0.46	10.00 8
Air Compressors	106	0.48	10.00 8
Bore/Drill Rigs	291	0.75	10.00 8
Cement and Mortar Mixers	10	0.56	10.00 8
Concrete/Industrial Saws	19	0.73	10.00 8
Cranes	399	0.43	10.00 8
Crushing/Proc. Equipment	142	0.78	10.00 8
Excavators	168	0.57	10.00 8
Forklifts	145	0.30	10.00 8
Generator Sets	549	0.74	10.00 8
Graders	174	0.61	10.00 8
Off-Highway Tractors	267	0.65	10.00 8
Off-Highway Trucks	479	0.57	10.00 8
Other Construction Equipment	75	0.62	10.00 8
Other General Industrial Equipment	238	0.51	10.00 8
Other Material Handling Equipment	191	0.59	10.00 8
Pavers	100	0.62	10.00 8
Paving Equipment	104	0.53	10.00 8
Plate Compactors	8	0.43	10.00 8
Pressure Washers	1	0.60	10.00 8
Pumps	53	0.74	10.00 8
Rollers	95	0.56	10.00 8
Rough Terrain Forklifts	93	0.60	10.00 8
Rubber Tired Dozers	357	0.59	10.00 8
Rubber Tired Loaders	157	0.54	10.00 8
Scrapers	313	0.72	10.00 8
Signal Boards	20	0.78	10.00 8
Skid Steer Loaders	44	0.55	10.00 8
Surfacing Equipment	362	0.45	10.00 8
Sweepers/Scrubbers	91	0.68	10.00 8
Tractors/Loaders/Backhoes	108	0.55	10.00 8
Trenchers	63	0.75	10.00 8
Welders	45	0.45	10.00 8

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for ->				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	32.1	132.1	251.5	161.1	11.1	150.0	41.3	10.1	31.2	25,323.9
Grading/Excavation	81.8	843.6	425.6	166.0	16.0	150.0	45.5	14.3	31.2	60,716.1
Drainage/Utilities/Sub-Grade	24.4	96.2	163.7	159.4	9.4	150.0	39.8	8.6	31.2	17,432.9
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (pounds/day)	81.8	843.6	425.6	166.0	16.0	150.0	45.5	14.3	31.2	60,716.1
Total (tons/construction project)	3.0	23.6	18.5	10.3	0.8	9.5	2.7	0.7	2.0	2,276.4
Notes:	Project Start Year ->	2012								
	Project Length (months) ->	5								
	Total Project Area (acres) ->	1950								
	Maximum Area Disturbed/Day (acres) ->	15								
	Total Soil Imported/Exported (yd ³ /day)->	15625								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.										
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.										
Emission Estimates for ->				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	14.6	60.1	114.3	73.2	5.0	68.2	18.8	4.6	14.2	11,510.9
Grading/Excavation	37.2	383.4	193.4	75.4	7.3	68.2	20.7	6.5	14.2	27,598.2
Drainage/Utilities/Sub-Grade	11.1	43.7	74.4	72.5	4.3	68.2	18.1	3.9	14.2	7,924.1
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (kilograms/day)	37.2	383.4	193.4	75.4	7.3	68.2	20.7	6.5	14.2	27,598.2
Total (megagrams/construction project)	2.8	21.4	16.8	9.3	0.7	8.6	2.4	0.7	1.8	2,064.8
Notes:	Project Start Year ->	2012								
	Project Length (months) ->	5								
	Total Project Area (hectares) ->	789								
	Maximum Area Disturbed/Day (hectares) ->	6								
	Total Soil Imported/Exported (meters ³ /day)->	11946								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.										
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.										

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Construction Scenario:

Site Grading and Use of Scrapers for Material Transport

Road Construction Emissions Model

Version 6.3.2

Data Entry Worksheet

Note: Required data input sections have a yellow background.

Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.

The user is required to enter information in cells C10 through C25.



Input Type

Project Name		
Construction Start Year	2012	Enter a Year between 2005 and 2025 (inclusive)
Project Type	2	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	5.0	months
Predominant Soil/Site Type: Enter 1, 2, or 3	1	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	2.5	miles
Total Project Area	1950.0	acres
Maximum Area Disturbed/Day	15.0	acres
Water Trucks Used?	1	1. Yes 2. No
Soil Imported	15625.0	yd ³ /day
Soil Exported		yd ³ /day
Average Truck Capacity	20.0	yd ³ (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of Construction Months	Program Calculated Months
Grubbing/Land Clearing	2.00	0.50
Grading/Excavation	2.00	2.00
Drainage/Utilities/Sub-Grade	2.00	1.75
Paving	0.00	0.75
Totals	6.00	5.00

Please note: You have entered a different number of months than the project length shown in cell C13.

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions		User Override of				
User Input	Soil Hauling Defaults	Default Values				
Miles/round trip	0.00	30				
Round trips/day		781				
Vehicle miles traveled/day (calculated)		0				
Hauling Emissions	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate (grams/mile)	0.93	11.59	6.20	0.45	0.38	1868.60
Emission rate (grams/trip)	10.89	7.79	185.47	0.02	0.01	209.04
Pounds per day	37.5	26.8	638.3	0.1	0.0	719.4
Tons per construction period	0.82	0.59	14.04	0.00	0.00	15.83

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions		User Override of Worker				
	Commute Default Values	Default Values				
Miles/ one-way trip		20				
One-way trips/day		2				
No. of employees: Grubbing/Land Clearing	20.00	14				
No. of employees: Grading/Excavation	30.00	22				
No. of employees: Drainage/Utilities/Sub-Grade	30.00	19				
No. of employees: Paving	0.00	21				
	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.135	0.244	2.515	0.033	0.018	426.920
Emission rate - Grading/Excavation (grams/mile)	0.132	0.235	2.427	0.033	0.018	426.640
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.132	0.235	2.427	0.021	0.018	426.640
Emission rate - Paving (grams/mile)	0.000	0.000	0.000	0.000	0.000	0.000
Emission rate - Grubbing/Land Clearing (grams/trip)	0.839	0.359	8.253	0.130	0.012	192.050
Emission rate - Grading/Excavation (grams/trip)	0.809	0.343	7.916	0.130	0.012	192.280
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.809	0.343	7.916	0.130	0.012	192.280
Emission rate - Paving (grams/trip)	0.000	0.000	0.000	0.000	0.000	0.000
Pounds per day - Grubbing/Land Clearing	0.386	0.493	5.886	0.081	0.034	786.123
Tons per const. Period - Grub/Land Clear	0.008	0.011	0.129	0.002	0.001	17.295
Pounds per day - Grading/Excavation	0.375	0.475	5.672	0.081	0.034	785.670
Tons per const. Period - Grading/Excavation	0.008	0.010	0.125	0.002	0.001	17.285
Pounds per day - Drainage/Utilities/Sub-Grade	0.375	0.475	5.672	0.060	0.034	785.670
Tons per const. Period - Drain/Util/Sub-Grade	0.008	0.010	0.125	0.001	0.001	17.285
Pounds per day - Paving	0.000	0.000	0.000	0.000	0.000	0.000
Tons per const. Period - Paving	0.000	0.000	0.000	0.000	0.000	0.000
tons per construction period	0.025	0.032	0.379	0.005	0.002	51.864

Water truck default values can be overridden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values		
	Default # Water Trucks	Number of Water Trucks	Miles Traveled/Day	Miles Traveled/Day		
Grubbing/Land Clearing - Exhaust	3.00	3		120		
Grading/Excavation - Exhaust	3.00	3		120		
Drainage/Utilities/Subgrade	3.00	2		80		
	ROG	NOx	CO	PM10	PM2.5	CO2
Emission rate - Grubbing/Land Clearing (grams/mile)	0.97	12.07	6.48	0.47	0.39	1866.20
Emission rate - Grading/Excavation (grams/mile)	0.93	11.59	6.20	0.45	0.38	1868.60
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.92	11.59	6.20	0.45	0.38	1868.60
Pounds per day - Grubbing/Land Clearing	0.77	9.57	5.14	0.37	0.31	1479.81
Tons per const. Period - Grub/Land Clear	0.02	0.21	0.11	0.01	0.01	32.56
Pound per day - Grading/Excavation	0.74	9.19	4.91	0.36	0.30	1481.71
Tons per const. Period - Grading/Excavation	0.02	0.20	0.11	0.01	0.01	32.60
Pound per day - Drainage/Utilities/Subgrade	0.49	6.13	3.28	0.24	0.20	987.81
Tons per const. Period - Drainage/Utilities/Subgrade	0.01	0.13	0.07	0.01	0.00	21.73

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max	Default	PM10	PM10	PM2.5	PM2.5
	Acreage Disturbed/Day	Maximum Acreage/Day	pounds/day	tons/per period	pounds/day	tons/per period
Fugitive Dust - Grubbing/Land Clearing		15	150.0	3.3	31.2	0.7
Fugitive Dust - Grading/Excavation		15	150.0	3.3	31.2	0.7
Fugitive Dust - Drainage/Utilities/Subgrade		15	150.0	2.9	31.2	0.6

Off-Road Equipment Emissions

Grubbing/Land Clearing		Default	ROG	CO	NOx	PM10	PM2.5	CO2
Override of Default Number of Vehicles	Number of Vehicles	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
	<i>Program-estimate</i>							
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Rubber Tired Dozers	12.19	55.25	106.06	4.45	4.10	9343.42
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Scrapers	13.07	50.38	119.86	4.73	4.35	12178.17
10.00	5	Signal Boards	5.67	15.48	15.51	1.46	1.34	1536.36
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	30.9	121.1	241.4	10.6	9.8	23058.0
	Grubbing/Land Clearing	tons per phase	0.7	2.7	5.3	0.2	0.2	507.3

Grading/Excavation	Default		ROG	CO	NOx	PM10	PM2.5	CO2	
	Override of Default Number of Vehicles	Number of Vehicles Program-estimate							Type
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	
		0 Cranes	0.00	0.00	0.00	0.00	0.00	0.00	
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
	4.00	3 Excavators	3.15	16.29	23.49	1.39	1.28	2736.81	
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	3 Graders	0.00	0.00	0.00	0.00	0.00	0.00	
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	
	8.00	Off-Highway Trucks	12.96	38.12	111.57	4.04	3.72	15596.64	
	0.00	2 Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00	
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
	4.00	Plate Compactors	0.09	0.45	0.54	0.02	0.02	74.13	
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00	
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00	
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	3 Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
	8.00	2 Scrapers	16.82	65.51	152.35	6.01	5.52	16237.57	
	0.00	5 Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	
	12.00	Tractors/Loaders/Backhoes	2.89	32.13	18.74	0.73	0.67	4910.73	
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	
		Welders	0.00	0.00	0.00	0.00	0.00	0.00	
		Grading/Excavation	pounds per day	35.9	152.5	306.7	12.2	11.2	39555.9
		Grading	tons per phase	0.8	3.4	6.7	0.3	0.2	870.2

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate							
		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day	
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
4.00	2	Graders	4.07	19.25	31.25	1.80	1.66	3239.35
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Plate Compactors	0.13	0.68	0.81	0.03	0.03	111.20
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
4.00	2	Scrapers	8.41	32.75	76.18	3.00	2.76	8118.79
10.00	5	Signal Boards	5.40	15.24	15.13	1.38	1.27	1536.36
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
6.00	3	Trenchers	5.55	19.35	33.77	2.90	2.67	2653.76
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage	pounds per day	23.6	87.3	157.1	9.1	8.4	15659.5
	Drainage	tons per phase	0.5	1.9	3.5	0.2	0.2	344.5

Paving	Default		ROG	CO	NOx	PM10	PM2.5	CO2
	Override of Default Number of Vehicles	Number of Vehicles Program-estimate						
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	3 Pavers	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	3 Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	6 Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	5 Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.0	0.0	0.0	0.0	0.0	0.0
	Paving	tons per phase	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions all Phases (tons per construction period) =>			2.0	7.9	15.5	0.7	0.6	1722.0

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment	Default Values		Default Values		Default Values
	Horsepower		Load Factor		Hours/day
Aerial Lifts	60		0.46	10.00	8
Air Compressors	106		0.48	10.00	8
Bore/Drill Rigs	291		0.75	10.00	8
Cement and Mortar Mixers	10		0.56	10.00	8
Concrete/Industrial Saws	19		0.73	10.00	8
Cranes	399		0.43	10.00	8
Crushing/Proc. Equipment	142		0.78	10.00	8
Excavators	168		0.57	10.00	8
Forklifts	145		0.30	10.00	8
Generator Sets	549		0.74	10.00	8
Graders	174		0.61	10.00	8
Off-Highway Tractors	267		0.65	10.00	8
Off-Highway Trucks	479		0.57	10.00	8
Other Construction Equipment	75		0.62	10.00	8
Other General Industrial Equipment	238		0.51	10.00	8
Other Material Handling Equipment	191		0.59	10.00	8
Pavers	100		0.62	10.00	8
Paving Equipment	104		0.53	10.00	8
Plate Compactors	8		0.43	10.00	8
Pressure Washers	1		0.60	10.00	8
Pumps	53		0.74	10.00	8
Rollers	95		0.56	10.00	8
Rough Terrain Forklifts	93		0.60	10.00	8
Rubber Tired Dozers	357		0.59	10.00	8
Rubber Tired Loaders	157		0.54	10.00	8
Scrapers	313		0.72	10.00	8
Signal Boards	20		0.78	10.00	8
Skid Steer Loaders	44		0.55	10.00	8
Surfacing Equipment	362		0.45	10.00	8
Sweepers/Scrubbers	91		0.68	10.00	8
Tractors/Loaders/Backhoes	108		0.55	10.00	8
Trenchers	63		0.75	10.00	8
Welders	45		0.45	10.00	8

Road Construction Emissions Model, Version 6.3.2

Emission Estimates for ->				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	32.1	132.1	251.5	161.1	11.1	150.0	41.3	10.1	31.2	25,323.9
Grading/Excavation	74.5	801.4	343.2	162.7	12.7	150.0	42.8	11.6	31.2	42,542.7
Drainage/Utilities/Sub-Grade	24.4	96.2	163.7	159.4	9.4	150.0	39.8	8.6	31.2	17,432.9
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (pounds/day)	74.5	801.4	343.2	162.7	12.7	150.0	42.8	11.6	31.2	42,542.7
Total (tons/construction project)	2.9	22.7	16.7	10.2	0.7	9.5	2.6	0.7	2.0	1,876.6
Notes:	Project Start Year ->	2012								
	Project Length (months) ->	5								
	Total Project Area (acres) ->	1950								
	Maximum Area Disturbed/Day (acres) ->	15								
	Total Soil Imported/Exported (yd ³ /day)->	15625								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.										
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.										
Emission Estimates for ->				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	14.6	60.1	114.3	73.2	5.0	68.2	18.8	4.6	14.2	11,510.9
Grading/Excavation	33.9	364.3	156.0	73.9	5.8	68.2	19.4	5.3	14.2	19,337.6
Drainage/Utilities/Sub-Grade	11.1	43.7	74.4	72.5	4.3	68.2	18.1	3.9	14.2	7,924.1
Paving	-	-	-	-	-	-	-	-	-	-
Maximum (kilograms/day)	33.9	364.3	156.0	73.9	5.8	68.2	19.4	5.3	14.2	19,337.6
Total (megagrams/construction project)	2.6	20.5	15.1	9.3	0.7	8.6	2.4	0.6	1.8	1,702.1
Notes:	Project Start Year ->	2012								
	Project Length (months) ->	5								
	Total Project Area (hectares) ->	789								
	Maximum Area Disturbed/Day (hectares) ->	6								
	Total Soil Imported/Exported (meters ³ /day)->	11946								
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.										
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.										

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Appendix F

Memorandum of Agreement for Habitat Crediting

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MEMORANDUM OF AGREEMENT
REGARDING
THE EARLY IMPLEMENTATION OF HABITAT PROJECTS
FOR THE CENTRAL VALLEY PROJECT AND STATE WATER PROJECT COORDINATED
OPERATIONS and BAY DELTA CONSERVATION PLAN

I. PURPOSE

This Memorandum of Agreement ("MOA") sets forth the agreement of the parties regarding the process of identifying and evaluating Habitat Projects that are intended to contribute to the habitat protection, enhancement, and restoration acreage requirements for operations of the State Water Project ("SWP") under the federal and state Endangered Species Acts and for operations of the Central Valley Project ("CVP") under the federal Endangered Species Act. This process is intended to provide assurance that acquisition and restoration of lands for such Habitat Projects prior to implementation of the Bay Delta Conservation Plan ("BDCP") will be credited toward meeting the restoration acreage objectives in the BDCP Conservation Strategy.

II. PARTIES

A. This MOA is entered into as of the effective date by and among the California Department of Water Resources ("DWR"), the United States Bureau of Reclamation ("Reclamation") the State and Federal Contractors Water Agency ("SFCWA"), collectively "the Water Agencies," and the California Department of Fish and Game ("DFG"), the United States Fish and Wildlife Service ("USFWS"), and the National Marine Fisheries Service ("NMFS"), collectively "the Fishery Agencies."

B. It is anticipated that individual water agency members of the SFCWA may implement Habitat Projects. In this event, such agencies may become a Water Agency by executing this MOA.

III. DEFINITIONS

- A. "Bay Delta Conservation Plan" and "BDCP" mean the joint habitat conservation plan and natural community conservation plan prepared in accordance with the Planning Agreement and to be submitted for approval under Section 10 of the federal Endangered Species Act and section 2820 of the California Fish and Game Code.
- B. "BDCP Conservation Strategy" means the actions detailed in the November 18, 2010 draft Chapter 3 of the BDCP, as may be revised in subsequent drafts and a final Chapter 3.

- C. "Credit" and "Credits" mean the acreage and linear mileage contributions of particular Habitat Projects toward meeting the requirements of the Delta Smelt Biological Opinion, the Salmonids Biological Opinion, the Longfin ITP, and the BDCP conservation strategy; in this MOA, use of the verb "to credit" means to recognize and provide Credits.
- D. "Delta Smelt Biological Opinion" means the biological opinion issued by USFWS on December 15, 2008 and any subsequent biological opinion issued by USFWS on the CVP and SWP operations.
- E. "Fishery Agency" and "Fishery Agencies" means USFWS, NMFS, and DFG, individually and collectively.
- F. "Fishery Agency Strategy Team" or "FAST" means a review team composed of technical level representatives from each Fishery Agency and Reclamation that will work with the Proponent Water Agency to review and assist in planning Habitat Projects and provide guidance to the Water Agency on the expected benefits of proposed Habitat Projects in meeting the Restoration Objectives.
- G. "Habitat Projects" means projects that, once developed and implemented, are expected to provide valuable conservation benefits and contribute to the Restoration Objectives of the Longfin ITP and the BDCP Conservation Strategy, and will contribute towards completion of actions included in the Reasonable and Prudent Alternatives for the Delta Smelt Biological Opinion and the Salmonids Biological Opinion.
- H. "Longfin ITP" means the Incidental Take Permit issued by DFG on February 23, 2009 for the SWP with respect to longfin smelt, pursuant to Fish and Game Code Section 2081.
- I. "Planning Agreement" means the Planning Agreement regarding the Bay Delta Conservation Plan dated October 6, 2006, as amended in 2009, by DWR, Reclamation, USFWS, NMFS, DFG, and several other entities.
- J. "Proponent Water Agency" means a Water Agency or other agency that is proposing to implement a particular Habitat Project.
- K. "Prospectus" means information on a proposed Habitat Project provided to the Fishery Agency Strategy Team ("FAST") for the purposes of defining the type and amount of Credit the Habitat Project would yield if implemented as planned.
- L. "Restoration Objectives" means the acreage and linear mileage objectives and/or requirements for habitat protection, conservation, enhancement, and/or restoration contained in the Delta Smelt Biological Opinion, the Salmonids Biological Opinion, the Longfin ITP, and the BDCP Conservation Strategy or actions regarding habitat restoration included in the Reasonable and Prudent Alternatives for the Delta Smelt Biological Opinion and the Salmonids Biological Opinion.

- M. "Salmonids Biological Opinion" means the biological opinion issued by NMFS on June 4, 2009 and any subsequent biological opinion issued by NMFS on the CVP and SWP operations.
- N. "Water Agency" and "Water Agencies" means DWR, Reclamation, SFCWA, and a member of SFCWA that has executed this MOU, individually and collectively.

IV. RECITALS

A. Whereas: The USFWS Biological Opinion of December 15, 2008 on the continued long-term coordinated operations of the CVP and SWP with respect to delta smelt ("Delta Smelt Biological Opinion"), the NMFS Biological Opinion of June 4, 2009 on the CVP and SWP operations with respect to salmonid species ("Salmonids Biological Opinion"), and the California Department of Fish and Game ("DFG") Incidental Take Permit of February 23, 2009 for the SWP with respect to longfin smelt ("Longfin ITP"), each have requirements for habitat preservation, enhancement, and restoration programs, which the Habitat Projects are anticipated to help fulfill.

B. Whereas: The 2006 Planning Agreement regarding the BDCP states in Section 7.7.1:

The Parties may elect to preserve, enhance or restore, either by acquisition or other means, aquatic and associated riparian and floodplain habitat in the Planning Area that support native species of fish, wildlife or natural communities prior to approval of the BDCP. The Parties will confer with the Fishery Agencies regarding potential resources to be protected. The Fishery Agencies agree to credit such resources toward the land and water acquisition or habitat protection, enhancement, and restoration requirements of the BDCP, as appropriate, provided these resources are appropriately conserved, restored or enhanced, and managed to contribute to the BDCP's conservation strategy.

C. Whereas: The parties desire to implement Habitat Projects, which will require substantial time, funding, staffing, and other resources. The Water Agencies will contribute resources for Habitat Projects provided that the Water Agencies are authorized to undertake the action, and that there is reasonable certainty that Habitat Projects implemented by the Water Agencies before approval of the BDCP will be credited toward the requirements of the Delta Smelt Biological Opinion, the Salmonids Biological Opinion, and the Longfin ITP, as appropriate, and toward applicable BDCP requirements upon approval of the BDCP.

D. Whereas: This MOA reflects the parties' agreement regarding the process by which the parties will work cooperatively to identify Habitat Projects that may result in one or more of the following actions: 1) The USFWS will credit Habitat Projects toward the Restoration Objectives of the Delta Smelt Biological Opinion; 2) NMFS will credit Habitat Projects toward the Restoration Objectives of the Salmonids Biological Opinion; 3) DFG will credit Habitat Projects toward the Restoration Objectives of the Longfin ITP; and 4) USFWS, NMFS, and DFG agree that the Habitat Projects will contribute to the habitat protection, enhancement, and Restoration Objectives of the BDCP Conservation Strategy.

E. Whereas: Development of BDCP goals and objectives is ongoing, and refinement of conservation measures in response to the final BDCP goals and objectives may further define habitat functions and expected outcomes needed to comply with the terms of the BDCP. Therefore, the parties agree that contribution of an individual Habitat Project toward the BDCP Conservation Strategy may need to be re-evaluated to better identify the expected outcomes of the project for the final BDCP.

V. HABITAT CREDITING PROCESS

A. Overview of the FAST.

1. Upon execution of this MOA, the Fishery Agencies will form the FAST for the purpose of providing review and guidance to the Water Agencies in the planning, development, and implementation of specific Habitat Projects. Upon its formation, the FAST will establish an organizational structure, procedures, and review timelines consistent with this MOA.

2. The FAST shall be composed of at least one technical level representative from each Fishery Agency and Reclamation, who shall coordinate and organize the participation of additional technical staff from within their respective organization as appropriate. The FAST shall designate one representative as the primary contact person for coordination with the Water Agencies. As appropriate, the FAST shall also coordinate the participation of other regulatory agencies, such as the U.S. Army Corps of Engineers and the appropriate Regional Water Quality Control Board, with the FAST on a case-by-case basis.

B. Initial Concept Review. At the request of a Proponent Water Agency, the FAST shall convene to provide an initial concept review of proposed Habitat Projects. The Water Agency's request for initial concept review will be accompanied with sufficient relevant information on a proposed Habitat Project or Projects to allow the FAST to make an initial assessment on whether the project may be likely to contribute to the Restoration Objectives; an initial assessment on the specific types and amounts of habitat Credits the

Habitat Project is likely to yield; recommendations for adjustments, refinements, or alternatives that should be explored; and recommendations for studies that should be pursued; and identify potential issues with affected local government sponsored Habitat Conservation Plans (HCPs) or Natural Community Conservation Planning (NCCP) programs. The FAST's assessment and recommendations will be provided in writing within a reasonable time.

C. Early Technical Assistance. Following initial concept review for a Habitat Project, the Proponent Water Agency may request early technical assistance of the FAST in the planning and development of the proposed Habitat Project. The FAST will provide such assistance in the form of participation on planning teams, review of technical reports, attendance and guidance at project status meetings, site visits, and other assistance as requested and appropriate, as resources allow.

D. Prospectus Review.

1. At an appropriate time in the development of a specific Habitat Project, the Proponent Water Agency will provide to the FAST a "Prospectus" for the purpose of describing the type and amount of Credit the Proponent Water Agency believes the proposed project would yield. The Prospectus should include:

a. Site Information - Habitat surveys, project designs, and other information, such as environmental planning documents and permitting documentation, evidence of coordination with local government and consistency with locally sponsored HCPs or NCCP programs, if available, relevant to the type and amount of habitat to be created, restored, enhanced and/or preserved;

b. Conservation Strategy - The existing conservation strategy or other framework that identifies regional conservation goals, objectives and criteria and how the project fits within the strategy and/or framework;

c. Site specific Agreement - A proposed agreement to govern the establishment, operation, and management of the proposed Habitat Project;

d. Perpetual Conservation Mechanism - The instrument by which the Proposed Habitat Project site will be protected in perpetuity;

e. Conservation, Restoration and Long-term Management Plan - A proposed long-term management plan that has the primary goal of maintaining the Project habitat for the intended species and natural community conservation objectives; and

f. Funding - Information showing that sufficient funding will be provided to implement the Habitat Project and its long-term management plan.

2. At a mutually acceptable time thereafter, the FAST shall convene a meeting with the Proponent Water Agency to review the prospectus information and determine the type and amount of habitat protection, enhancement and restoration Credit that the Habitat Project would likely yield toward the Restoration Objectives if implemented as planned. The FAST shall make its determination based on the information provided and any other relevant information and in accordance with applicable state and federal law and each Fishery Agencies' written policies and guidelines. If the FAST lacks sufficient information to make its recommendation, the FAST shall identify and request from the Proponent Water Agency the specific information needed to make its recommendation.

3. The FAST will prepare and submit to the Fishery Agencies a memorandum describing its recommendation concerning the type and amount of habitat Credit and a proposed Credit release schedule for the Habitat Project under review. For restoration projects pursued as mitigation for a project impact, the documentation memo will refer to Credits as mitigation Credits, except as provided in E.3., below. The Fishery Agencies will review the FAST recommendations and will forward their determination to the Proponent Water Agency. A mechanism will be developed by the FAST to track accumulated Credits.

E. Habitat Crediting

1. BDCP Crediting - Following approval of the BDCP, Credits that have been determined for restoration projects, as described in D. 3, shall also be applied toward the requirements of the BDCP, where consistent with the BDCP Conservation Strategy and consistent with the Credit release schedule. Such additional Credit shall also be applicable toward requirements of the Section 7 biological opinions prepared by USFWS and NMFS for purposes of the BDCP, and the findings made by DFG in its approval of the BDCP under the Fish and Game Code.

2. Current or Future Biological Opinion Crediting - Based on the determination of the type and amount of habitat Credit made in D.3. above, USFWS is expected to apply the agreed upon types and amounts of habitat Credits of the Habitat Projects toward the requirements of the Delta Smelt Biological Opinion or applicable requirements of any subsequent biological opinion then effective, NMFS is expected to apply the agreed upon habitat Credits of the Habitat Projects toward the requirements of the Salmonids Biological Opinion or applicable requirements of any subsequent biological opinion then effective, and DFG is expected to apply the agreed upon habitat Credits of the

Restoration Projects toward the Longfin ITP or applicable requirements of any subsequent Fish and Game Code 2081 Permit for the SWP.

3. Specific Project Mitigation - If, and to the extent that, any Habitat Project is used to mitigate the impacts of specific projects, actions, or activities that are not BDCP covered activities, the project will not count toward the mitigation requirements or conservation objectives of the BDCP.

4. Specific Habitat Projects - For Habitat Projects that are being pursued in whole or in part through FloodSAFE and the CALFED Ecosystem Restoration Program, the Fishery Agencies will consider, on a case-by-case basis, whether the conservation outcomes of specific projects will be applied toward applicable conservation objectives of BDCP upon approval of BDCP, provided that the same habitat credit is not attributable to more than one program or project authorized under the federal and state Endangered Species Act (for example, BDCP and a Biological Opinion on a separate levee repair project).

VI. MISCELLANEOUS

A. Relationship to BDCP. The parties anticipate that upon approval of the BDCP, the BDCP Implementing Agreement and other related agreements will provide the mechanism and procedures for the planning, funding, implementation, development, and management of Habitat Projects that implement the BDCP Conservation Strategy. This MOA is not intended to define the procedures for the BDCP and in the event of inconsistencies between this MOA and the subsequent BDCP and related agreements, the BDCP and related agreements shall control.

B. Compliance with Laws. The agency or organization implementing the Habitat Project shall comply with all applicable laws, including, but not limited to, state and federal environmental laws.

C. Preservation of Rights and Authorities. All provisions of this MOA are intended and will be interpreted to be consistent with all applicable provisions of state and federal law. The parties recognize that each party to this MOA has specific statutory and regulatory authority and responsibilities, and that actions of these public agencies must be consistent with applicable procedural and substantive requirements. Nothing in this MOA is intended to, nor will have the effect of, constraining or limiting any public entity in carrying out its statutory responsibilities. Nothing in this MOA constitutes an admission by any party as to the proper interpretation of any provision of law, nor is anything in this MOA intended to, nor will it have the effect of, waiving or limiting any public entity's rights and remedies under any applicable law.

D. Modification. This MOA may be modified upon written agreement of all signatories. Modification may be proposed by one or more signatories. Proposals for modification will be circulated to all signatories for a 20-working day period of review. Approval of such proposals will be indicated by written acceptance by each signatory, which may be executed in counterparts.

E. Party Withdrawal. Any party may withdraw from participation in this MOA upon written notice to the other parties. The MOA shall remain in effect as to the remaining parties, provided the purpose of the MOA is not frustrated by the withdrawal of the particular party.

F. Term of the MOA. This MOA shall become effective on the last date of execution by DFG, DWR, NMFS, Reclamation, USFWS, and SFCWA, and will remain in effect until terminated by mutual agreement of the parties.

G. Funding. Nothing in this MOA may be construed to obligate Reclamation, USFWS, NMFS, or the United States to any current or future expenditure of resources in advance of the availability of appropriations from Congress. No liability shall accrue to the United States for failure to perform any obligation under this MOA in the event that funds are not appropriated or allotted. This MOA does not commit any party to funding of Habitat Projects or actions described in this MOA, including any funding that may be necessary for a party to carry out provisions of this MOA. Funding for a party's participation in actions to implement the process described by the MOA shall be borne by that party.

H. Execution in Counterparts. This MOA may be executed in counterparts.

IN WITNESS WHEREOF, the parties hereto executed this MOA on the date(s) indicated below.

United States Bureau of Reclamation

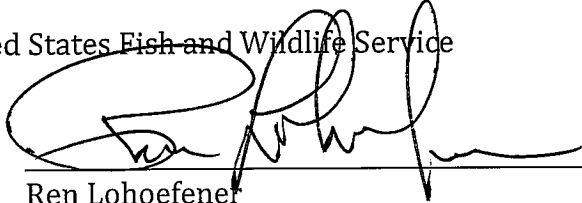
By:


Donald R. Glaser, Regional Director

Date:

9/15/11

United States Fish and Wildlife Service

By: 
Ren Lohofener
Regional Director, Pacific Southwest Region

Date: 9/30/2011

National Marine Fisheries Service

By: _____
Rodney R. McInnis
Regional Administrator, Southwest Region

Date: _____

Department of Fish and Game

By: _____
John McGarran, Director
~~CHUCK BONHAM~~

Date: _____

Department of Water Resources

By: _____
Mark W. Cowin, Director

Date: _____

State and Federal Contractors Water Agency

By: _____
Byron Buck, Executive Director

Date: _____

United States Fish and Wildlife Service

By: _____
Ren Lohofener
Regional Director, Pacific Southwest Region

Date: _____

National Marine Fisheries Service

By: Rodney R. McInnis
Rodney R. McInnis
Regional Administrator, Southwest Region

Date: 9-20-11

Department of Fish and Game

By: _____
~~John McGarran~~, Director
Chuck Conham,

Date: _____

Department of Water Resources

By: Mark W. Cowin
Mark W. Cowin, Director

Date: 9/16/2011

State and Federal Contractors Water Agency

By: _____
Byron Buck, Executive Director

Date: _____

United States Fish and Wildlife Service

By: _____
Ren Lohofener
Regional Director, Pacific Southwest Region

Date: _____

National Marine Fisheries Service

By: _____
Rodney R. McInnis
Regional Administrator, Southwest Region

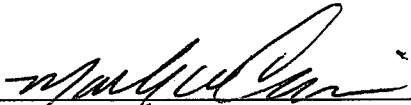
Date: _____

Department of Fish and Game

By: _____
~~John McCannan~~, Director
Chuck Bonham,

Date: _____

Department of Water Resources

By:  _____
Mark W. Cowin, Director

Date: 9/6/2011

State and Federal Contractors Water Agency

By: _____
Byron Buck, Executive Director

Date: _____

United States Fish and Wildlife Service

By: _____
Ren Lohofener
Regional Director, Pacific Southwest Region


Date: _____

National Marine Fisheries Service

By: _____
Rodney R. McInnis
Regional Administrator, Southwest Region

Date: _____

Department of Fish and Game

By:  _____
Charlton H. Bonham, Director

Date: 9.14.11

Department of Water Resources

By: _____
Mark W. Cowin, Director

Date: _____

State and Federal Contractors Water Agency

By: _____
Byron Buck, Executive Director

Date: _____

United States Fish and Wildlife Service

By: _____
Ren Lohofener
Regional Director, Pacific Southwest Region

Date: _____

National Marine Fisheries Service

By: _____
Rodney R. McInnis
Regional Administrator, Southwest Region

Date: _____

Department of Fish and Game

By: _____
~~John McCamman, Director~~
Chuck Bonham

Date: _____

Department of Water Resources

By: _____
Mark W. Cowin, Director

Date: _____

State and Federal Contractors Water Agency

By:  _____
Byron Buck, Executive Director

Date: 9/13/11

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Appendix G

Economic Impacts within Yolo County of the Lower Yolo Restoration Project

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Appendix G

Economic Impacts within Yolo County of the Lower Yolo Restoration Project

PREFACE:

The State and Federal Contractors Water Agency (SFCWA) proposes to convert existing agricultural lands to wetlands, thereby creating about 1,226 acres of perennial emergent tidal marsh on property in the Lower Yolo Bypass. Conversion of local farmland to habitat or to less productive agricultural uses is of major concern to a number of stakeholders including the California Department of Conservation, the California Farm Bureau, Yolo County, and other Delta counties. Such projects are also a topical issue relative to the draft Delta Plan of the Delta Stewardship Council, the compliance with federal biological opinions on delta smelt and salmonids in connection with the existing operations of the State Water Project and Central Valley Project, and the forthcoming Bay Delta Conservation Plan.

These stakeholders have raised many physical environmental issues concerning conversion of the Lower Yolo Restoration Project's farmland to wetlands that have been analyzed in the Draft Environmental Impact Report (EIR). However, one topic that the Draft EIR is not required to address is economics. The California Environmental Quality Act (CEQA), its implementation guidelines (*State CEQA Guidelines*), and case law do not consider economics to be a significant effect: "Economic or social effects of a project shall not be treated as significant effects on the environment" (California Code of Regulations, §15131). Therefore, the EIR does not address how changes in land use can affect local economies.

On a separate track and not part of the CEQA process, SFCWA has commissioned this study to assess the near- and long-term economic effects of the Yolo Project to provide a factual understanding of those economic effects, both in terms of their magnitude and extent in Yolo County. The report that follows provides information for further discussion, separately from CEQA, between SFCWA and the affected stakeholders.

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Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Prepared for
State and Federal Contractors Water Agency

by
David Mitchell
M.Cubed

November 2012

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Executive Summary

ES.1 Introduction

Located at the southern end of the Yolo Bypass in the Sacramento-San Joaquin Delta, the Lower Yolo Restoration Project would restore or enhance 1,465 acres of tidal and seasonal marsh and riparian habitat. The project is part of a broader effort to fulfill the 8,000-acre tidal restoration obligations of the California Department of Water Resources (DWR) contained within the Reasonable and Prudent Alternative (RPA) of the U.S. Fish and Wildlife Service Delta Smelt Biological Opinion and referenced in the National Marine Fisheries Service Salmonid Biological Opinion. The project would also be an early action consistent with the proposed 50-year Bay Delta Conservation Plan.

The proposed restoration would alter current agricultural land uses on the property. On net, the project is expected to remove from production 1,420 acres of irrigated pasture and 45 acres of grazed riparian pasture, and add to production 50 acres of non irrigated pasture. Ranch land outside of the restoration footprint is expected to remain in its current uses, which historically have included livestock grazing and limited field crop production.

Conversion of local farmland to habitat or to less productive agricultural uses is of significant concern to Yolo County and other Delta counties and is a topical issue relative to the draft Delta Plan of the Delta Stewardship Council, the compliance with aforementioned biological opinions, and the developing Bay Delta Conservation Plan. The California Environmental Quality Act does not treat economic effects as environmental impacts, generally. As such environmental review documents under CEQA do not normally address how changes in land use can affect local economies. Accordingly, SFCWA has commissioned this study to assess the near and long term economic effects of the Lower Yolo Restoration Project to provide a factual basis for the discussion of those economic effects. This report provides an assessment of the magnitude and extent of economic impacts – both adverse and beneficial -- within Yolo County that could reasonably be expected to result from the proposed Lower Yolo Restoration Project.

ES.2 Methodology

The analysis entailed the following steps:

Step 1: Based on the proposed restoration footprint and historical land uses on the ranch, calculate the net conversion of farmland to habitat or less productive agricultural uses.

Step 2: Quantify productivity of impacted land and estimate annual loss of agricultural output due to conversion to habitat.

Step 3: Estimate expected expenditures for construction services and related activity associated with design and construction of proposed tidal habitat and the fraction of these expenditures expected to occur within Yolo County.

Step 4: Estimate expected expenditures for site management and habitat monitoring/science and the fraction of these expenditures expected to occur within Yolo County.

Step 5: Using a regional economic model of Yolo County, estimate total impacts to regional employment, income, value added, and output resulting from each of the direct changes in production/expenditure estimated in Steps 1-4.

Step 6: Calculate the net change in full-time equivalent employment (FTE) and net present value changes in regional income and value added.

Step 5 was implemented with the IMPLAN regional economic impact model and the 2010 data file for Yolo County (MIG, Inc., 2012a). IMPLAN is a commonly used regional economic impact modeling platform and has been used in a range of Delta-related economic impact studies (Howitt, et al., 2012; Garnache & Howitt, 2011; ICF International, Inc., 2012; M.Cubed, 2009; M.Cubed, 2008). In this report, dollar-denominated impacts are reported in 2012 constant dollars. Future dollar amounts are discounted to present value using a 2.125% real discount rate, unless otherwise indicated.

ES.3 Findings

Following are key findings from the analysis:

- Most of the land in the restoration footprint is characterized by low to very low productivity soils – primarily Storie Grade 4 or 5 (see Figure 1-1). Grade 4 soils have a narrow range of agricultural possibilities and Grade 5 soils are of very limited agricultural use except for pasture and range.
- While parts of Lower Yolo Ranch have been used for both livestock grazing and growing field crops (Wallace-Kuhl & Associates, Inc., 2007), fields within the proposed restoration footprint historically have only supported livestock grazing and irrigated pasture hay production. They have not been used for – nor does it appear they can support -- more productive types of crop production.
- The project would reduce agricultural output from the ranch by slightly less than \$150,000 annually. Regionally, the reduction in farming activity is estimated to lower annual employment by 1.4 full-time equivalent (FTE) jobs, labor income by \$88,218, value added by \$133,962, and output by \$285,806. The present value of future regional value added losses is \$6.3 million.
- Restoration planning, design, and construction are expected to occur over a two-year period at a cost of between \$15,154 and \$19,249 per acre. Approximately 90% of planned expenditures for restoration are expected to occur within Yolo County. During the two-year construction period, the project would add to County employment between 191 and 246 FTE jobs. The present value gain in regional value added from the two-year construction project is between \$16.2 and \$21.0 million.
- Once restoration is completed, annual maintenance and scientific monitoring activities will continue on the property. Monitoring is expected to occur for 10 years following construction. Management services will occur in perpetuity. Expenditures within Yolo County for monitoring and management are estimated at \$250,000 and \$100,000 per year, respectively. During the 10-year monitoring phase, these activities would contribute 5.7 FTE jobs to annual County employment. Once the monitoring phase concluded, site management activities would contribute 1.8 FTE jobs annually. The present value gain in regional value added from

expenditures for site monitoring and management is \$7.0 million.

- Net regional impacts are summarized in Table ES-1. Regional value added provides the best measure of the net economic impact to the region, since it only counts economic gains or losses accruing within the county.¹ Model results indicate the project would yield a net present value gain in regional value added of between \$16.9 and \$21.7 million, depending on final restoration construction cost.
- Model results indicate that over the next 50 years the project would, on balance, increase County employment by between 250 and 305 FTE jobs. Most of the gain is experienced in the first decade of this period. After this, economic activity associated with site management mostly but not entirely offsets the loss of economic activity due to the reduction in agricultural production. The timing of net regional impact by project phase is summarized in Table ES-2.
- On balance, the project is estimated to result in a present value net increase in sales tax revenue of between \$160,000 and \$239,000 and a net increase in property tax revenue of between \$174,000 and \$261,000. Roughly 40% of the net gain in sales tax and 55% of the net gain in property tax will be retained Yolo County local governments, with the balance going to the state general fund.

Table ES-1. Net Regional Economic Impact of Lower Yolo Ranch Tidal Marsh Restoration

Source of Impact	FTE Jobs ¹	Labor Income ² (millions)	Value Added ² (millions)	Output ² (millions)
Low Const. Cost Estimate				
Agricultural Production	-70	-\$4.2	-\$6.3	-\$13.4
Tidal Marsh Restoration	+191	+\$11.7	+\$16.2	+\$29.6
Site Management/Monitoring	+129	+\$5.7	+\$7.0	+\$10.8
Net Impact	+250	+\$13.2	+\$16.9	+\$27.0
High Const. Cost Estimate				
Agricultural Production	-70	-\$4.2	-\$6.3	-\$13.4
Tidal Marsh Restoration	+246	+\$15.2	+\$21.0	+\$38.5
Site Management/Monitoring	+129	+\$5.7	+\$7.0	+\$10.8
Net Impact	+305	+\$16.7	+\$21.7	+\$35.9
¹ Cumulative impact over 50-year period. One FTE = 2080 hours of labor.				
² Present value of future gains and losses based on 2.125% real discount rate.				

¹ Labor income understates the regional impact because it does not capture impacts to profits and rents accruing to individuals and businesses in the county while output overstates the regional impact because it includes the value of goods and services produced outside of the county.

Table ES-2. Net Annual Regional Impacts by Project Phase

Low Construction Cost Estimate				
	Construction Phase		Monitoring Phase	Management Phase
Impact Category	Year 1	Year 2	Years 3 - 12	Years 13+
FTE ¹	10.6	177.6	4.3	0.4
Labor Income ²	\$0.55	\$11.47	\$0.21	(\$0.001)
Value Added²	\$0.65	\$15.93	\$0.23	(\$0.03)
Output ²	\$1.07	\$29.24	\$0.29	(\$0.13)
High Construction Cost Estimate				
	Construction Phase		Monitoring Phase	Management Phase
Impact Category	Year 1	Year 2	Years 3 - 12	Years 13+
FTE ¹	10.6	232.6	4.3	0.4
Labor Income ²	\$0.55	\$15.07	\$0.21	(\$0.001)
Value Added²	\$0.65	\$20.96	\$0.23	(\$0.03)
Output ²	\$1.07	\$38.53	\$0.29	(\$0.13)
¹ One FTE = 2080 hours of labor.				
² Dollar amounts in millions of undiscounted 2012 constant dollars.				

1 Introduction

1.1 Purpose and Scope of Analysis

Lower Yolo Ranch, also known as McCormack Ranch, is located at the southern end of the Yolo Bypass near Cache Slough in Yolo County (see Figure 1-1). The 3,445-acre ranch has historically been used for livestock grazing and growing field crops (Wallace-Kuhl & Associates, Inc., 2007). The location of the ranch is well suited for restoration of tidal wetlands in the Sacramento-San Joaquin Delta.² The ranch was purchased in 2007 by Westlands Water District as part of a broader effort to fulfill the 8,000-acre tidal restoration obligations of the California Department of Water Resources (DWR) contained within the Reasonable and Prudent Alternative (RPA) of the U.S. Fish and Wildlife Service Delta Smelt Biological Opinion (U.S. Fish and Wildlife Service, 2008) and referenced in the National Marine Fisheries Service Salmonid Biological Opinion (National Marine Fisheries Service, 2009). These obligations are tied to the continuing operations of DWR's State Water Project (SWP) and the federal Central Valley Project (CVP) by the Bureau of Reclamation (State and Federal Contractors Water Agency, 2012a). Additionally, tidal wetlands restoration on the property would be an early action consistent with the proposed 50-year Bay Delta Conservation Plan (State and Federal Contractors Water Agency, 2012b).

As currently envisioned, the project would restore or enhance 1,465 acres of the ranch to tidal and seasonal marsh and riparian habitat. Areas on the ranch that are outside of the restoration footprint would remain in their current condition and would continue to support agricultural operations, as carried out under leasehold rights from the property owner, Westlands Water District (State and Federal Contractors Water Agency, 2012a).

Conversion of local farmland to habitat or to less productive agricultural uses is of significant concern to Yolo County and other Delta counties and is a topical issue relative to the draft Delta Plan of the Delta Stewardship Council, the compliance with aforementioned biological opinions, and the developing Bay Delta Conservation Plan. The California Environmental Quality Act does not treat economic effects as environmental impacts, generally. As such environmental review documents under CEQA do not normally address how changes in land use can affect local economies. Accordingly, SFCWA which is pursuing the Lower Yolo Ranch habitat restoration project on behalf of the State Department of Water Resources and the United States Bureau of Reclamation who hold the permit obligations for restoration, has commissioned this study to assess the near and long term economic effects of the Yolo Ranch Project to provide a factual basis for the discussion of those economic effects.

² The two-inch delta smelt are an endangered species that live year-round in the estuary. A resident population has taken hold in the adjacent Liberty Island region, making the project site an ideal place to expand habitat as part of a broader smelt restoration strategy.

The purpose of this report is to provide an objective assessment of the magnitude and extent of economic impacts – both adverse and beneficial -- within Yolo County that could reasonably be expected to result from the proposed Lower Yolo Restoration Project as characterized by its Draft Environmental Impact Report (Draft EIR).³

1.2 Methodology

The analysis of regional economic impacts of proposed Lower Yolo Ranch tidal wetlands restoration entailed the following analytical steps:

Step 1: Characterize and quantify expected conversion of productive farmland to tidal habitat or to less productive agricultural uses as a consequence of the proposed project.

Step 2: Estimate direct changes in annual agricultural output resulting from proposed conversion of farmland to non-agricultural uses or to less productive agricultural uses.

Step 3: Estimate expected expenditures for construction services and related industries associated with design and construction of proposed tidal habitat and the fraction of these expenditures expected to occur within Yolo County.

Step 4: Estimate expected expenditures for site management and habitat monitoring services and the fraction of these expenditures expected to occur within Yolo County.

Step 5: Using a regional economic model of Yolo County, estimate direct, indirect, and induced impacts to regional employment, income, value added, and output resulting from the direct changes in industry outputs estimated in Steps 1-4.

Step 6: Calculate the net change in full-time equivalent employment (FTE) and net present value changes in regional income and value added.

For Step 5, regional impacts were estimated with the IMPLAN regional economic impact model and the 2010 data file for Yolo County (MIG, Inc., 2012a). IMPLAN is a commonly used regional economic impact modeling platform and has been used in a range of Delta-related economic impact studies (Howitt, et al., 2012; Garnache & Howitt, 2011; ICF International, Inc., 2012; M.Cubed, 2009; M.Cubed, 2008). In

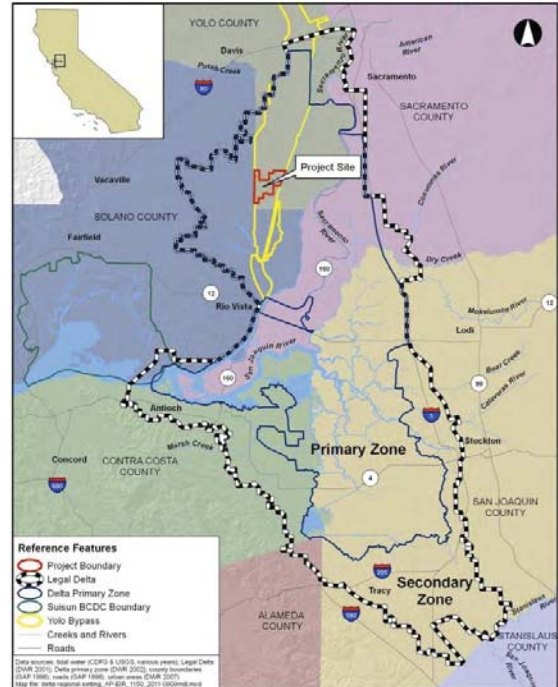


Figure 1-1. Project Location

³ Value added measures the fraction of regional output retained within the region in the form of profits, rents, and labor income. In national and state accounting systems, it is akin to gross domestic product.

this report, dollar-denominated impacts are reported in 2012 constant dollars. Future dollar amounts are discounted to present value using a 2.125% real discount rate.⁴

1.3 Report Organization

The remainder of the report is organized as follows:

- Section 2 describes historical and proposed Lower Yolo Ranch land uses and quantifies expected conversion of productive farmland to tidal habitat or to less productive agricultural uses as a consequence of the proposed project.
- Section 3 describes data and methods used to estimate the change in annual agricultural output resulting from proposed changes in land use.
- Sections 4 and 5 describe data and methods used to estimate direct changes in regional demands for goods and services associated with proposed tidal habitat construction, management, and monitoring.
- Section 6 presents the net impacts to regional employment, income, and value added associated with the proposed Lower Yolo Ranch tidal wetlands restoration.
- Section 7 summarizes impacts to sales and property tax revenues collected within Yolo County.

2 Lower Yolo Ranch Historical and Proposed Land Uses

2.1 Historical Land Use and Agricultural Productivity

Lower Yolo Ranch has historically been used for livestock grazing and growing field crops (Wallace-Kuhl & Associates, Inc., 2007). Production records for Lower Yolo Ranch from 2000–2010 are presented in Table 2-1. Since 2007, when the property was acquired by Westlands Water District, it has been leased out for livestock grazing.

Lands within the proposed restoration footprint historically have only supported livestock grazing and irrigated pasture hay production. Soils in this part of the ranch, as shown in Figure 2-1, are primarily Pescadero (flooded) and Sacramento (flooded) and are rated as below-average productivity (Storie Soil Classification Grades 4 and 5) (State and Federal Contractors Water Agency, 2012c).⁵ Grade 4 soils have a narrow range of agricultural possibilities and require special management. Grade 5 soils are of very limited agricultural use except for pasture and range. Review of historical satellite images indicate that when rice has been grown on the property, it has been to the north of the proposed restoration footprint, while production of other field crops has occurred to the west and north (see Figure 2-1).

⁴ The discount rate was selected to match the FY2013 federal nominal discount rate for use by the Corps of Engineers and the Bureau of Reclamation for evaluating proposed water projects, less the 10-year expected inflation rate of 1.5%, as reported by the Federal Reserve Bank of Cleveland (Federal Reserve Bank of Cleveland, 2012).

⁵ Storie Grade 1 represents the most productive soils and Grade 6 the least productive. Numerically, the range can be categorized as follows: Grade 1: Storie Index value of 80 to 100, Grade 2: Storie Index value of 60 to 79, Grade 3: Storie Index value of 40 to 59, Grade 4: Storie Index value of 20 to 39, Grade 5: Storie Index value of 10 to 19, and Grade 6: Storie Index value of 0 to 9.

Table 2-1. Lower Yolo Ranch Cropping History: 2000-2010

Year	Grazing (acres)	Rice (acres)	Fallow (acres)	Wheat (acres)	Sunflower Seed (acres)	Total (acres)
2000	1,697	511		994	148	3,350
2001	2,345	564			441	3,350
2002	2,654	611			129	3,350
2003	1,687	1,167		495		3,350
2004	2,739	611				3,350
2005	2,546	611	192			3,350
2006	2,937	413				3,350
2007	3,350					3,350
2008	3,350					3,350
2009	3,350					3,350
2010	3,350					3,350

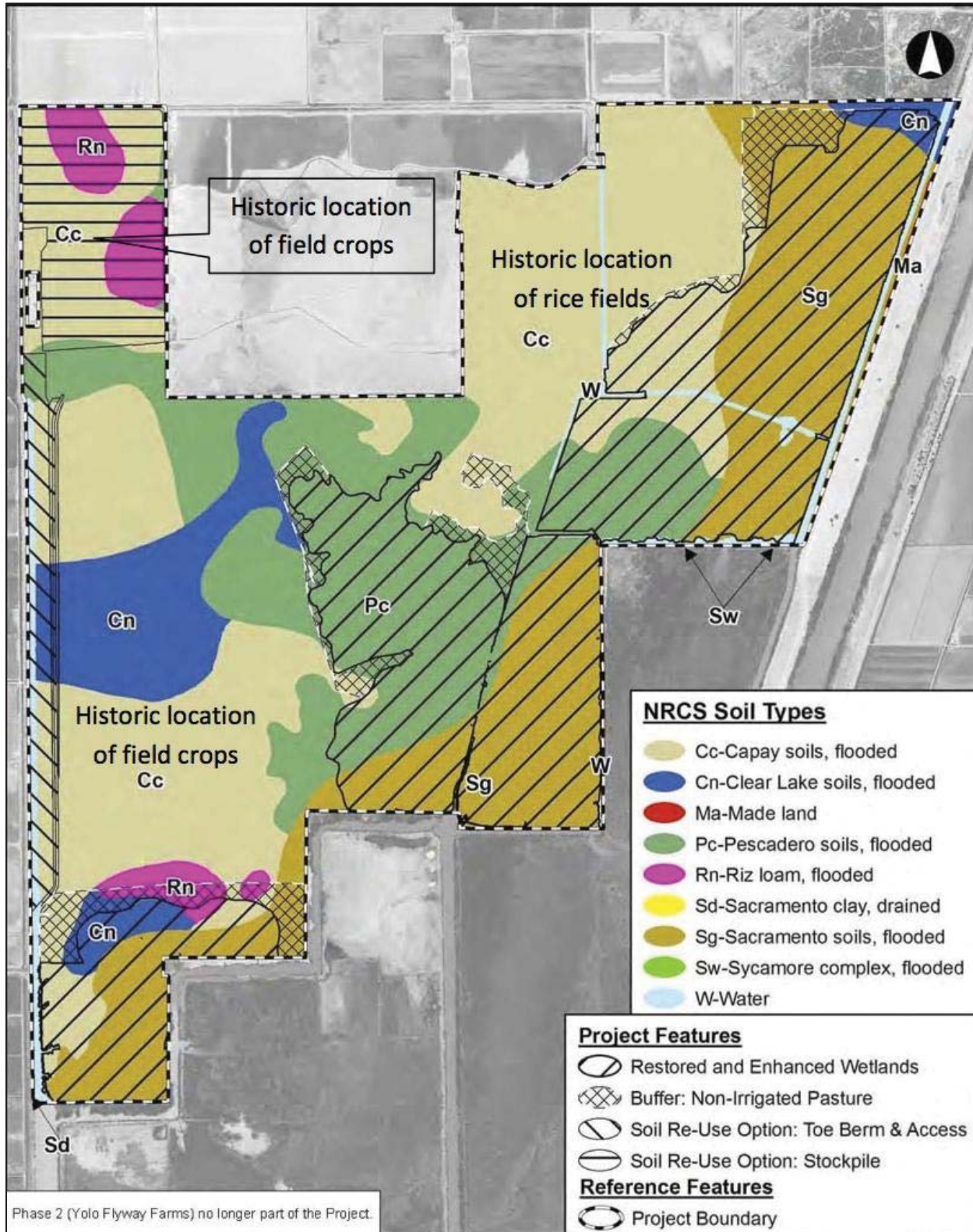
Source: *Lower Yolo Project Draft Environmental Impact Report*, Table 4.5-5.

Lands within the proposed restoration footprint historically have only supported livestock grazing and irrigated pasture hay production. Soils in this part of the ranch, as shown in Figure 2-1, are primarily Pescadero (flooded) and Sacramento (flooded) and are rated as below-average productivity (Storie Soil Classification Grades 4 and 5) (State and Federal Contractors Water Agency, 2012c).⁶ Grade 4 soils have a narrow range of agricultural possibilities and require special management. Grade 5 soils are of very limited agricultural use except for pasture and range. Review of historical satellite images indicate that when rice has been grown on the property, it has been to the north of the proposed restoration footprint, while production of other field crops has occurred to the west and north (see Figure 2-1).

In Yolo County, on irrigated pasture lands both inside and outside the Bypass, livestock grazing begins typically in April or May and ends in October or November. Grazing within the Bypass cannot begin until past the annual flood conveyance period, which varies roughly from April to June, depending on weather conditions. As a result, the agricultural productivity of lands within the Bypass is reduced significantly when the Bypass is flooded into late spring (Howitt, et al., 2012; Garnache & Howitt, 2011). Additionally, because of the floodway priority of lands within the Bypass, lands outside of the Bypass typically have more cropland use options. Any land uses proposed or already managed in the Yolo Bypass must, by State of California Flood Protection Board regulation, not inhibit the movement of flood waters through the Bypass (Title 23 California Water Code §115).

⁶ Storie Grade 1 represents the most productive soils and Grade 6 the least productive. Numerically, the range can be categorized as follows: Grade 1: Storie Index value of 80 to 100, Grade 2: Storie Index value of 60 to 79, Grade 3: Storie Index value of 40 to 59, Grade 4: Storie Index value of 20 to 39, Grade 5: Storie Index value of 10 to 19, and Grade 6: Storie Index value of 0 to 9.

Figure 2-1. Tidal Wetland Restoration Footprint and Soil Type



2.2 Proposed Land Use

The project's primary impact to agricultural production would be to reduce the extent of irrigated and grazed riparian pasture. The project would also result in a small increase in non irrigated pasture. Proposed changes in agricultural land uses are summarized in Table 2-2. On net, the project is expected to remove from production 1,420 acres of irrigated pasture and 45 acres of grazed riparian pasture, and add to production 50 acres of non irrigated pasture. Ranch land outside of the restoration footprint is expected to remain in agricultural production, which historically has included livestock grazing and limited field crop production.

Table 2-2. Lower Yolo Ranch Proposed Land Use Changes

Type of Land Use	Existing Acreages	Proposed Acreages	Net Change
Grazed Riparian	60	15	-45
Non Irrigated Pasture	250	300	50
Irrigated Pasture	3,100	1,680	-1,420
Total	3,410	1,995	-1,415

Source: Lower Yolo Project Draft Environmental Impact Report, Table 4.5-9.

3 Reduction in Agricultural Production Value

Average production value per acre of irrigated pasture for Yolo, Solano, and Sacramento Counties for the period 2002-2011 is summarized in Table 3-1 (County of Yolo, 2002-2011; County of Sacramento, 2002-2011; County of Solano, 2002-2011). For Yolo County over this period, production value per acre has ranged between \$58 and \$144, with an average value of \$105. For the three-county region, production value per acre has ranged between \$94 and \$143, with an average value of \$116.

Table 3-1. Irrigated Pasture Production Value Per Acre

Year	Solano	Yolo	Sacramento	Regional Avg.
2002	128	142	160	143
2003	96	144	156	132
2004	94	118	152	121
2005	94	105	147	115
2006	98	105	141	115
2007	104	101	137	114
2008	113	96	132	114
2009	92	58	133	94
2010	89	84	131	101
2011	99	94	143	112
Range	\$89-\$128	\$58-\$144	\$131-\$160	\$94-\$143
10-Yr Avg.	\$101	\$105	\$143	\$116

2012 constant dollars.

Source: 2002-2011 Agricultural Crop Reports, Yolo, Solano, and Sacramento Counties.

The average per acre values for Yolo County shown in Table 3-1 are consistent with yields estimated for irrigated pasture in the Yolo Bypass by other studies (Howitt, et al., 2012; Garnache & Howitt, 2011). Irrigated pasture yield can be expressed either in terms of animal unit months (AUM) or equivalent hay tons.⁷ One AUM is equivalent to approximately 0.4 to 0.5 tons of air-dried hay (University of California Cooperative Extension, 2008; University of California Cooperative Extension, 2003). Howitt, et al. (2012) have estimated typical yields in the southern end of the Yolo Bypass as high as 2.25 to 2.75 AUM if grazing can begin in early April to as low as 1.5 to 1.75 AUM if flooding prevents grazing from starting until sometime in May. Assuming grazing usually starts in middle to late April, the average yield estimated by Howitt et al. is about 2 AUM, which closely matches the average yield of 1.98 AUM inferred from County crop report data, as shown in Table 3-2. The Yolo County 10-year average return of \$105 per acre is therefore used to value the reduction in Lower Yolo Ranch irrigated pasture production.⁸

Table 3-2. Irrigated Pasture Yields Inferred from County Crop Report Data (AUM/Acre)

Year	Solano	Yolo	Sacramento	Regional Avg.
2002	2.72	2.98	3.09	2.93
2003	2.19	3.54	3.32	3.02
2004	1.85	2.25	2.92	2.34
2005	1.63	1.80	2.62	2.02
2006	1.86	2.11	2.75	2.24
2007	1.81	1.63	2.12	1.86
2008	1.32	1.20	1.72	1.42
2009	2.10	1.41	3.18	2.23
2010	1.67	1.74	2.60	2.00
2011	1.06	1.13	1.65	1.28
Range	1.06 – 2.72	1.13 – 3.54	1.65 – 3.32	1.28 – 3.02
10-Yr Avg.	1.82	1.98	2.60	2.13

Source: 2002-2011 Agricultural Crop Reports, Yolo, Solano, and Sacramento Counties.
 Yield is estimated by dividing production value per acre by the equivalent AUM price of alfalfa hay. The equivalent AUM price of alfalfa hay is calculated by multiplying the alfalfa hay price in dollars per ton by 0.4 tons per AUM.

Unlike irrigated pasture, values for riparian and non-irrigated pasture cannot be directly inferred from County crop reports. Riparian pasture is not a crop category included in County crop reports. In the case of non-irrigated pasture, county data includes large amounts of dry rangeland that may bias downward production values for non-irrigated pasture in the Yolo Bypass.

As an alternative, production values for riparian and non-irrigated pasture are inferred from current pasture lease rates. Current lease rates for irrigated, riparian, and non-irrigated pasture on the property are \$90, \$50, and \$20 per acre, respectively (Freeman, 2012). Production values for riparian and non-irrigated pasture are calculated by multiplying their respective lease rates by the ratio of production

⁷ An acre of pasture with a yield of 5 AUM means the acre could meet the feed requirements of 5 livestock for one month.

⁸ It is also noted that dividing per acre value by average yield implies an average value of \$53/AUM (2012 dollars), which is within about 5% of the AUM equivalent price derived from county average alfalfa prices.

value to lease value for irrigated pasture.⁹ This results in production value estimates of \$65 and \$26 per acre for riparian and non-irrigated pasture, respectively. By comparison, the 10-year average production value for non-irrigated pasture reported by Yolo County is \$13/acre, or 50% less than the value calculated for Lower Yolo Ranch.¹⁰

Table 3-3 summarizes the expected reduction in annual agricultural production value based on the land use changes shown in Table 2-2. The net change in annual production value is just under \$150,000.

Table 3-3. Estimated Reduction in Annual Agricultural Production Value

Type of Land Use	Net Acreage Change	Output Value Per Acre	Net Change in Output
Grazed Riparian	-45	\$65	-\$2,925
Non Irrigated Pasture	50	\$26	\$1,300
Irrigated Pasture	-1,420	\$105	-\$149,100
Total	-1,415		-\$147,800

Source: *Lower Yolo Project Draft Environmental Impact Report*, Table 4.5-9.

4 Tidal Habitat Planning and Construction Expenditures

Preliminary cost estimates for planning and construction, including 20% contingency, are summarized in Table 4-1 (Schmutte, 2012). Total restoration cost is expected to range between \$22.2 and \$28.2 million. The spread in cost is primarily due to different soil reuse/disposal options currently under investigation. On a per acre basis, Lower Yolo Ranch restoration costs are expected to range between \$15,100 and \$19,300 per acre.¹¹ These estimates are consistent with BDCP cost estimates for tidal habitat restoration in the Delta. For example, within the Cache Slough Restoration Opportunity Area (ROA), BDCP estimated an average restoration cost of \$16,200 per acre; for all ROAs in the Delta it estimated an average cost of about \$23,000 per acre (California Department of Water Resources, 2012).¹²

Not all expenditure for restoration is expected to occur within Yolo County. The last column of Table 4-1 shows the percentage of each cost line item expected to be spent inside the county. Most expenditure for planning, permitting, and environmental documentation, and about half the expenditure for project management, engineering, and design, for example, is expected to occur outside of the county. Direct

⁹ To be conservative the tri-county average value of \$116 per acre is used instead of the Yolo County average value of \$105 per acre. This results in a markup over the rental rate of approximately 30%.

¹⁰ The lower value reflects the large amount of dry rangeland included in the county data.

¹¹ Restored area of 1,465 acres is shown in Table 4-1 while agricultural acreage removed from production listed in Table 2-2 is 1,415 acres. The difference of 50 acres represents property within the restoration footprint that historically has not been in agricultural use.

¹² Tidal wetland restoration cost per acre for Dutch Slough in the southwest Delta is expected to be about 50% greater than the upper end of the cost range for Lower Yolo Ranch. Higher per acre costs for Dutch Slough are being driven by more extensive mass grading and fill requirements (Phillip Williams & Associates, 2006).

construction and related management expenditures, in contrast, are expected to primarily benefit Yolo County businesses.

Planning and construction costs are expected to be spread over a two-year period. Thus, restoration expenditures are anticipated to provide a significant but short-lived boost to regional economic activity.

Table 4-1. Lower Yolo Ranch Tidal Habitat Planning and Construction Costs

Cost Items	Direct Cost	Contingency	Total Cost	% Yolo County
Planning, Site Assessment, Surveying, Permitting and Environmental Documentation	\$1,500,000	\$300,000	\$1,800,000	20%
Project Management, Engineering, Modeling and Design	\$1,500,000	\$300,000	\$1,800,000	50%
Construction Management	\$500,000	\$100,000	\$600,000	90%
Construction				
Low	\$15,000,000	\$3,000,000	\$18,000,000	100%
High	\$20,000,000	\$4,000,000	\$24,000,000	100%
Total Restoration Cost				
Low			\$22,200,000	89%
High			\$28,200,000	91%
Restored Area (acres)			1,465	
Cost per Acre				
Low			\$15,154	89%
High			\$19,249	91%

5 Tidal Habitat Management and Monitoring Expenditures

Once restoration is completed, annual maintenance and scientific monitoring activities will continue on the property. Preliminary cost estimates for these on-going activities are summarized in Table 5-1. Annual O&M expenditure is estimated to average \$100,000 per year, or about \$68 per acre, and is assumed to last in perpetuity (Schmutte, 2012). The estimated cost per acre is within the range estimated for management of BDCP habitat land reserves in the Delta. The BDCP estimates are a decreasing function of the amount of land under management, starting at about \$123 per acre during the near-term phase of plan implementation and falling to about \$47 per acre by the midpoint of the late-long term phase of plan implementation (California Department of Water Resources, 2012).

Annual monitoring, science, and adaptive management costs are estimated to average \$500,000 per year, or about \$341 per acre. These expenditures are assumed to last for 10 years following construction (Schmutte, 2012). The estimated monitoring/science cost per acre is quite close to BDCP's estimate of \$400 per acre for monitoring and scientific research during the first 10 years of BDCP

implementation (California Department of Water Resources, 2012).¹³ It is expected that half of the monitoring/science expenditure would occur outside of the County (Schmutte, 2012).

Table 5-1. Lower Yolo Ranch Annual Management and Monitoring Expenditures

Operations Annual Costs (Following Restoration)	Annual Expenditure	% Yolo County	Duration (Yrs)
Long-term O&M	\$100,000	100%	In Perpetuity
Monitoring, Science, Adaptive Management	\$500,000	50%	10
Cost per Acre			
Long-term O&M	\$68	100%	In Perpetuity
Monitoring, Science, Adaptive Management	\$341	50%	10

6 Regional Economic Impacts

An IMPLAN model of Yolo County is used to estimate how the estimated annual decrease in agricultural production and the estimated one-time and annual increases in expenditures for habitat restoration would impact total employment, income, value added, and output in the County. The IMPLAN model divides the County’s economy into 440 sectors and traces the demands for goods and services coming from any one sector to every other sector in the model, including regional imports and exports. From these production and import/export relationships, each sector’s multiplier effect on total regional employment, income, value added, output, and tax revenue can be calculated.¹⁴ Changes in regional employment are reported in full-time equivalent (FTE) jobs.¹⁵

The direct changes in regional output used to estimate the total economic impact to the region of the proposed restoration are summarized in Table 6-1.

6.1 Reduced Agricultural Production Value

To calculate the regional economic impact associated with the decrease in Lower Yolo Ranch farm output, the change in production value (from Table 3-3) is run through IMPLAN industry sector 10 (all

¹³ It is important to note that the BDCP estimates were derived independently of the Lower Yolo Ranch estimates, and therefore provide a useful benchmark.

¹⁴ Multiplier impacts are generally divided into three categories: direct, indirect, and induced. Direct impacts derive directly from the initial change in a sector’s output or demand. Indirect impacts represent all the changes in economic activity occurring within other sectors that supply the initial sector, or supply one or more sectors that supplies the initial sector, and so on. Induced impacts represent all the changes in economic activity brought about by gains or losses in household income resulting from the direct and indirect changes in economic activity. Import and export relationships are modeled using the sector regional purchase coefficients (RPC) included with the County data file.

¹⁵ One FTE is approximately 2080 hours of labor per year. IMPLAN calculates employment impacts in terms of total jobs, which includes temporary, part-time, and full-time employment. IMPLAN provides a table of conversion factors for converting from total jobs to FTE and this was used to translate total job impacts to FTE job impacts. The table of conversion factors was downloaded from IMPLAN at http://implan.com/v4/index.php?option=com_multicategories&view=article&id=628:628&Itemid=10 on November 12, 2012.

other crop farming).¹⁶ The summary of model results is provided in Table 6-2. Detailed sector-level model results are provided in the Appendix.

Table 6-1. Summary of Annual Direct Changes in Yolo County Output

Source of Change	Annual Direct Changes in Yolo County Output		Duration (Yrs)
	Decrease (millions)	Increase (millions)	
Agricultural Production	\$0.15		In Perpetuity
Tidal Habitat Restoration		\$11.1 to \$14.1	2 yrs
Tidal Habitat Management		\$0.10	In Perpetuity
Tidal Habitat Monitoring/Science		\$0.25	10 yrs

The reduction in farming activity is estimated to lower regional employment by 1.4 FTE jobs, regional labor income by \$88,218/yr, regional value added by \$133,962/yr, and regional output by \$285,806/yr. The last row of the table shows the present values of the calculated future annual income, value added, and output losses. These amounts are \$4.2, \$6.3, and \$13.4 million, respectively.

Table 6-2. Regional Economic Impacts of Reduction in Agricultural Output

Impact Type	FTE Jobs/yr	Labor Income (\$/yr)	Value Added (\$/yr)	Output (\$/yr)
Direct Effect	0.4	\$42,887	\$49,882	\$147,800
Indirect Effect	0.7	\$31,962	\$56,531	\$95,105
Induced Effect	0.3	\$13,369	\$27,549	\$42,901
Total Effect	1.4	\$88,218	\$133,962	\$285,806
Present Value Loss¹		\$4,151,448	\$6,304,094	\$13,449,710

¹ Discounted to Year 0 using real discount rate of 2.125%.

6.2 Within-County Restoration Planning and Construction Expenditures

To calculate the annual changes in regional economic activity associated with the restoration planning and construction activity, the estimated values for within-county expenditures for planning, project management, and construction services (from Table 4-1) are run through IMPLAN sectors 3375 (environmental and other technical consulting services), 3369 (architectural, engineering, and related services), and 3036 (other newly constructed nonresidential structures)¹⁷, according to the sector allocations shown in Table 6-3.

Regional impacts associated with restoration planning and construction expenditures are summarized in Table 6-4. Detailed sector-level model results are provided in the Appendix. Within-county planning and

¹⁶ IMPLAN industry sector 10 is based on three North American Industry Classification System codes: 11194 (Hay Farming), 111992 (Peanut Farming), and 111998 (All Other Miscellaneous Crop Farming). As such it likely overstates somewhat the production intensity associated with pasturing livestock.

¹⁷ IMPLAN industry sector 3036 (other newly constructed nonresidential structures) includes a range of non-residential and non-commercial structure construction, including conservation and development construction, fencing construction, and all other non-building construction, including dams, reservoirs, and levees (MIG, Inc., 2012b).

construction expenditures are estimated to generate between 191 and 246 FTE jobs over the two-year period of restoration. The present values of gains in regional income, value added, and output over this period range between \$11.7 and \$15.2, \$16.2 and \$21.0, and \$29.6 and \$38.5 million, respectively.

Table 6-3. Allocation of Within-County Planning and Construction Expenditures by IMPLAN Sector

Planning, Site Assessment, Surveying, Permitting and Environmental Documentation					
Sector ID	Sector Name	% of Expend.		Year 1	Year 2
	Environmental and other technical consulting services	75%		\$270,000	
3375				0	\$0
3369	Architectural, engineering, and related services	25%		\$90,000	\$0
Project Management, Engineering, Modeling and Design					
Sector ID	Sector Name			Year 1	Year 2
	Environmental and other technical consulting services	40%		\$180,000	
3375				0	\$180,000
	Architectural, engineering, and related services	60%		\$270,000	
3369				0	\$270,000
Construction Management					
Sector ID	Sector Name	% of Expend.		Year 1	Year 2
3369	Architectural, engineering, and related services	100%		\$0	\$540,000
Construction					
Sector ID	Sector Name	% of Expend.		Year 1	Year 2
	Other newly constructed nonresidential structures	100%	Low	\$0	\$18,000,000
			Hig		0
			h	\$0	\$24,000,000
		100%		\$0	0

6.3 Within-County Annual O&M, Monitoring, and Science Expenditures

To calculate the annual changes in regional economic activity associated with annual site management and monitoring, the estimated values for within-county annual expenditures for O&M and monitoring/science services (from Table 5-1) are run through IMPLAN sectors 3019 (agriculture and forestry support services), 3039 (maintenance and repair construction of nonresidential structures)¹⁸, and 3375 (environmental and other technical consulting services), according to the sector allocations shown in Table 6-5.

Regional impacts associated with site management and monitoring expenditures are summarized in Table 6-6. Detailed sector-level model results are provided in the Appendix. Within-county expenditures

¹⁸ IMPLAN industry sector 3036 (other newly constructed nonresidential structures) includes a range of non-residential and non-commercial structure construction, including conservation and development construction, fencing construction, and all other non-building construction, including dams, reservoirs, and levees (MIG, Inc., 2012b).

for site O&M and monitoring/science are estimated to generate 1.8 and 3.9 FTE jobs annually, respectively. Employment gains associated with monitoring/science expenditures are assumed to only persist for 10 years. The present values of gains in regional income, value added, and output are \$5.7, \$7.0, and \$10.8 million, respectively.

Table 6-4. Regional Economic Impacts of Within-County Planning and Construction Expenditures

Impact Type	FTE Jobs/yr	Labor Income (\$/yr)	Value Added (\$/yr)	Output (\$/yr)
Year 1				
Direct Effect	8.0	\$460,045	\$466,130	\$810,000
Indirect Effect	1.9	\$86,355	\$142,981	\$242,824
Induced Effect	2.1	\$94,386	\$194,396	\$302,877
Total Effect	12.0	\$640,786	\$803,507	\$1,355,701
Present Value Gain¹		\$627,453	\$786,788	\$1,327,491
Year 2 – Low Estimate				
Direct Effect	105.3	\$7,922,081	\$9,678,471	\$18,990,000
Indirect Effect	36.0	\$1,952,919	\$2,921,128	\$5,139,684
Induced Effect	37.7	\$1,680,454	\$3,460,206	\$5,392,382
Total Effect	179.0	\$11,555,454	\$16,059,805	\$29,522,066
Present Value Gain¹		\$11,079,569	\$15,398,419	\$28,306,268
Year 2 – High Estimate				
Direct Effect	137.4	\$10,387,148	\$12,725,249	\$24,990,000
Indirect Effect	47.2	\$2,566,973	\$3,833,603	\$6,748,967
Induced Effect	49.4	\$2,204,001	\$4,538,221	\$7,072,382
Total Effect	234.0	\$15,158,122	\$21,097,074	\$38,811,349
Present Value Gain¹		\$14,533,869	\$20,228,239	\$37,212,993

¹Discounted to Year 0 using real discount rate of 2.125%.

Table 6-5. Allocation of Within-County O&M and Monitoring/Science Expenditures by IMPLAN Sector

Long-term O&M (in perpetuity)			
Sector ID	Sector Name	% of Expend.	Perpetual
3019	Agriculture and forestry support services	60%	\$60,000
3039	Maintenance and repair construction of nonresidential structures	40%	\$40,000
Monitoring, Science, Adaptive Management (10 years duration)			
Sector ID	Sector Name	% of Expend.	Year 3-12
3375	Environmental and other technical consulting services	100%	\$250,000

Table 6-6. Regional Economic Impacts of Within-County O&M and Monitoring/Science Expenditures

Impact Type	FTE Jobs	Labor Income (\$/yr)	Value Added (\$/yr)	Output (\$/yr)
Annual O&M				
Direct Effect	1.4	\$68,440	\$71,844	\$100,000
Indirect Effect	0.1	\$5,793	\$9,273	\$20,031
Induced Effect	0.3	\$12,547	\$25,832	\$40,261
Total Effect	1.8	\$86,780	\$106,950	\$160,292
Present Value Gain¹		\$3,915,597	\$4,825,673	\$7,232,519
Annual Monitoring/Science				
Direct Effect	2.6	\$152,619	\$153,350	\$250,000
Indirect Effect	0.6	\$25,088	\$41,443	\$70,426
Induced Effect	0.7	\$30,797	\$63,433	\$98,826
Total Effect	3.9	\$208,504	\$258,225	\$419,251
Present Value Gain¹		\$1,784,086	\$2,209,530	\$3,587,367

¹ Discounted to Year 0 using real discount rate of 2.125%.

6.4 Net Regional Economic Impact

Net regional impacts to employment, income, value added, and output of Lower Yolo Ranch tidal marsh restoration are summarized in Table 6-7. Net impacts for the low and high construction cost scenarios are shown. Income, value added, and output impacts are summarized in terms of the present value of future gains and losses. Employment impacts show the net change in FTE jobs over a 50-year period. Recall that an FTE is equivalent to 2080 hours of labor, which means a gain of 1 FTE over the 50-year period is on average equivalent to approximately 42 hours of additional labor per year. It is important to keep in mind, however, that the gains and losses in employment, income, and value added over this period are not uniform. Most of the gain is experienced in the first decade of the 50-year period. After this, economic activity associated with site management mostly but not entirely offsets the loss of economic activity due to the reduction in agricultural production. Table 6-8 shows the timing of net regional impact by project phase.

Regional value added provides the best measure of the net economic impact to the region, since it only counts economic gains or losses accruing within the county.¹⁹ Model results indicate the proposed Lower Yolo Ranch tidal marsh restoration project would yield a net present value gain in regional value added of between \$16.9 and \$21.7 million, depending on final restoration construction cost.

¹⁹ Labor income understates the regional impact because it does not capture impacts to profits and rents accruing to individuals and businesses in the county while output overstates the regional impact because it includes the value of goods and services produced outside of the county.

Table 6-7. Net Regional Economic Impact of Lower Yolo Ranch Tidal Marsh Restoration

Source of Impact	FTE Jobs ¹	Labor Income ² (millions)	Value Added ² (millions)	Output ² (millions)
Low Const. Cost Estimate				
Agricultural Production	-70	-\$4.2	-\$6.3	-\$13.4
Tidal Marsh Restoration	+191	+\$11.7	+\$16.2	+\$29.6
Site Management/Monitoring	+129	+\$5.7	+\$7.0	+\$10.8
Net Impact	+250	+\$13.2	+\$16.9	+\$27.0
High Const. Cost Estimate				
Agricultural Production	-70	-\$4.2	-\$6.3	-\$13.4
Tidal Marsh Restoration	+246	+\$15.2	+\$21.0	+\$38.5
Site Management/Monitoring	+129	+\$5.7	+\$7.0	+\$10.8
Net Impact	+305	+\$16.7	+\$21.7	+\$35.9

¹ Cumulative impact over 50-year period.
² Present value of future gains and losses based on 2.125% real discount rate.

Table 6-8. Net Annual Regional Impacts by Project Phase

Low Construction Cost Estimate				
	Construction Phase		Monitoring Phase	Management Phase
Impact Category	Year 1	Year 2	Years 3 - 12	Years 13+
FTE ¹	10.6	177.6	4.3	0.4
Labor Income ²	\$0.55	\$11.47	\$0.21	(\$0.001)
Value Added²	\$0.65	\$15.93	\$0.23	(\$0.03)
Output ²	\$1.07	\$29.24	\$0.29	(\$0.13)
High Construction Cost Estimate				
	Construction Phase		Monitoring Phase	Management Phase
Impact Category	Year 1	Year 2	Years 3 - 12	Years 13+
FTE ¹	10.6	232.6	4.3	0.4
Labor Income ²	\$0.55	\$15.07	\$0.21	(\$0.001)
Value Added²	\$0.65	\$20.96	\$0.23	(\$0.03)
Output ²	\$1.07	\$38.53	\$0.29	(\$0.13)

¹ One FTE = 2080 hours of labor.
² Dollar amounts in millions of undiscounted 2012 constant dollars.

7 Sales and Property Tax Revenue Impacts

In addition to estimating impacts to employment, income, value added, and output, the IMPLAN model calculates local, state, and federal tax revenue impacts. The present value of impacts to sales and property tax receipts are summarized in Table 7-1. On balance, the project is estimated to result in a present value net increase in sales tax revenue of between \$160,000 and \$239,000 and a net increase in property tax revenue of between \$174,000 and \$261,000. Roughly 40% of the net gain in sales tax and 55% of the net gain in property tax will be retained Yolo County local governments, with the balance going to the state general fund (League of California Cities, 2005).

As with net gains to value added, most of the gain is realized in the first 10 years of the project. After this, tax receipts associated with site management mostly but not entirely offset the loss of tax revenue due to the reduction in agricultural production. Table 7-2 shows the timing of net tax revenue impact by project phase.

Table 7-1. Net Impact to Sales and Property Tax Receipts

Source of Impact	Sales Tax Revenue ¹	Property Tax Revenue ¹
Low Const. Cost Estimate		
Agricultural Production	(\$221,412)	(\$241,459)
Tidal Marsh Restoration	\$264,908	\$288,851
Site Management/Monitoring	\$116,652	\$127,229
Net Impact	\$160,148	\$174,620
High Const. Cost Estimate		
Agricultural Production	(\$221,412)	(\$241,459)
Tidal Marsh Restoration	\$343,872	\$374,952
Site Management/Monitoring	\$116,652	\$127,229
Net Impact	\$239,113	\$260,722
¹ Present value of future gains and losses based on 2.125% real discount rate.		

Table 7-2. Net Annual Sales and Property Tax Impacts by Project Phase

Low Construction Cost Estimate				
	Construction Phase		Monitoring Phase	Management Phase
Impact Category	Year 1	Year 2	Years 3 - 12	Years 13+
Sales Tax Revenue	\$8,340	\$258,259	\$1,155	(\$2,886)
Property Tax Revenue	\$9,093	\$281,600	\$1,260	(\$3,147)
High Construction Cost Estimate				
	Construction Phase		Monitoring Phase	Management Phase
Impact Category	Year 1	Year 2	Years 3 - 12	Years 13+
Sales Tax Revenue	\$8,340	\$340,615	\$1,155	(\$2,886)
Property Tax Revenue	\$9,093	\$371,400	\$1,260	(\$3,147)

²Dollar amounts in undiscounted 2012 constant dollars.

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Appendix – IMPLAN Model Results

Detailed results by sector for each impact category are provided in the following tables. Note that sectors with total impact of zero are excluded from the tables to save space.

Agricultural Production Impact		FTE Employment			
ID	Sector Description	Direct	Indirect	Induced	Total
0	Total	4.44E-01	6.82E-01	3.01E-01	1.43E+00
1	Oilseed farming	0.00E+00	2.38E-04	6.32E-06	2.44E-04
2	Grain farming	0.00E+00	1.46E-02	1.62E-04	1.48E-02
3	Vegetable and melon farming	0.00E+00	9.69E-07	1.36E-04	1.37E-04
4	Fruit farming	0.00E+00	2.35E-04	1.68E-04	4.03E-04
5	Tree nut farming	0.00E+00	1.26E-03	9.44E-05	1.35E-03
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.00E-05	3.90E-06	1.39E-05
9	Sugarcane and sugar beet farming	0.00E+00	2.99E-05	7.20E-07	3.07E-05
10	All other crop farming	4.44E-01	4.59E-03	2.40E-05	4.49E-01
11	Cattle ranching and farming	0.00E+00	3.78E-04	3.84E-06	3.82E-04
12	Dairy cattle and milk production	0.00E+00	1.25E-04	1.39E-05	1.39E-04
13	Poultry and egg production	0.00E+00	1.11E-06	1.34E-06	2.45E-06
14	Animal production, except cattle and poultry and eggs	0.00E+00	7.51E-04	6.79E-05	8.19E-04
15	Forestry, forest products, and timber tract production	0.00E+00	4.43E-05	1.43E-06	4.57E-05
18	Commercial hunting and trapping	0.00E+00	0.00E+00	3.23E-06	3.23E-06
19	Support activities for agriculture and forestry	0.00E+00	3.68E-01	4.97E-04	3.69E-01
20	Extraction of oil and natural gas	0.00E+00	7.27E-04	9.83E-05	8.26E-04
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.05E-04	2.46E-05	1.30E-04
29	Support activities for oil and gas operations	0.00E+00	3.80E-05	5.48E-06	4.35E-05
31	Electric power generation, transmission, and distribution	0.00E+00	4.11E-03	6.91E-04	4.80E-03
32	Natural gas distribution	0.00E+00	7.30E-05	1.16E-05	8.46E-05
33	Water, sewage and other treatment and delivery systems	0.00E+00	2.82E-05	4.77E-06	3.30E-05
39	Maintenance and repair construction of nonresidential structures	0.00E+00	7.13E-03	1.69E-03	8.82E-03
40	Maintenance and repair construction of residential structures	0.00E+00	3.31E-04	8.26E-04	1.16E-03
41	Dog and cat food manufacturing	0.00E+00	4.29E-09	6.65E-07	6.69E-07
42	Other animal food manufacturing	0.00E+00	4.64E-05	1.68E-05	6.32E-05
43	Flour milling and malt manufacturing	0.00E+00	2.15E-05	3.82E-05	5.97E-05
52	Nonchocolate confectionery manufacturing	0.00E+00	1.20E-07	3.24E-06	3.36E-06
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.27E-06	6.42E-05	6.55E-05
62	Bread and bakery product manufacturing	0.00E+00	3.34E-07	1.86E-05	1.89E-05
64	Tortilla manufacturing	0.00E+00	1.46E-08	1.67E-05	1.68E-05
69	All other food manufacturing	0.00E+00	6.72E-07	1.72E-05	1.79E-05
70	Soft drink and ice manufacturing	0.00E+00	4.50E-06	4.33E-04	4.38E-04
71	Breweries	0.00E+00	2.87E-07	3.22E-05	3.24E-05
72	Wineries	0.00E+00	5.61E-07	4.49E-05	4.55E-05
76	Broadwoven fabric mills	0.00E+00	1.75E-07	1.58E-06	1.76E-06
80	Textile and fabric finishing mills	0.00E+00	7.58E-06	8.43E-06	1.60E-05
84	Textile bag and canvas mills	0.00E+00	5.32E-06	1.39E-07	5.46E-06
85	All other textile product mills	0.00E+00	1.54E-05	3.43E-06	1.88E-05
87	Cut and sew apparel contractors	0.00E+00	1.95E-05	2.84E-05	4.78E-05

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		FTE Employment			
ID	Sector Description	Direct	Indirect	Induced	Total
91	Apparel accessories and other apparel manufacturing	0.00E+00	7.07E-08	8.73E-07	9.44E-07
93	Footwear manufacturing	0.00E+00	2.34E-17	3.22E-06	3.22E-06
95	Sawmills and wood preservation	0.00E+00	9.70E-05	3.88E-05	1.36E-04
97	Engineered wood member and truss manufacturing	0.00E+00	1.37E-06	1.23E-06	2.60E-06
99	Wood windows and doors and millwork manufacturing	0.00E+00	6.46E-06	1.88E-06	8.34E-06
100	Wood container and pallet manufacturing	0.00E+00	4.65E-04	6.34E-05	5.28E-04
101	Manufactured home (mobile home) manufacturing	0.00E+00	1.49E-06	4.96E-07	1.98E-06
103	All other miscellaneous wood product manufacturing	0.00E+00	8.11E-06	2.51E-06	1.06E-05
107	Paperboard container manufacturing	0.00E+00	2.38E-04	8.81E-05	3.26E-04
113	Printing	0.00E+00	5.83E-04	4.83E-04	1.07E-03
114	Support activities for printing	0.00E+00	2.29E-07	1.88E-07	4.16E-07
130	Fertilizer manufacturing	0.00E+00	6.09E-03	1.20E-05	6.11E-03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	5.73E-03	3.16E-05	5.76E-03
133	Pharmaceutical preparation manufacturing	0.00E+00	4.66E-08	5.02E-06	5.06E-06
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.93E-08	2.61E-07	2.80E-07
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.97E-05	4.94E-06	2.47E-05
140	Printing ink manufacturing	0.00E+00	2.44E-06	1.18E-06	3.62E-06
141	All other chemical product and preparation manufacturing	0.00E+00	2.12E-06	2.05E-07	2.33E-06
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	4.72E-06	2.26E-06	6.98E-06
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	9.01E-06	2.99E-06	1.20E-05
149	Other plastics product manufacturing	0.00E+00	1.74E-05	9.89E-06	2.73E-05
150	Tire manufacturing	0.00E+00	5.43E-05	5.26E-06	5.95E-05
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.21E-04	2.43E-05	2.45E-04
163	Other concrete product manufacturing	0.00E+00	1.01E-04	5.48E-05	1.56E-04
167	Ground or treated mineral and earth manufacturing	0.00E+00	2.49E-04	1.67E-06	2.51E-04
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.45E-05	3.61E-06	1.81E-05
186	Plate work and fabricated structural product manufacturing	0.00E+00	2.17E-05	4.31E-06	2.60E-05
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.94E-05	1.33E-05	3.27E-05
194	Spring and wire product manufacturing	0.00E+00	7.99E-06	2.26E-06	1.02E-05
195	Machine shops	0.00E+00	6.06E-06	6.61E-07	6.72E-06
197	Coating, engraving, heat treating and allied activities	0.00E+00	1.04E-06	1.24E-07	1.16E-06
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.06E-05	1.52E-06	1.21E-05
203	Farm machinery and equipment manufacturing	0.00E+00	2.19E-04	3.28E-07	2.20E-04
205	Construction machinery manufacturing	0.00E+00	1.09E-07	4.66E-09	1.14E-07
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.24E-07	3.80E-08	1.62E-07
207	Other industrial machinery manufacturing	0.00E+00	4.12E-07	1.06E-07	5.18E-07
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.75E-08	1.11E-08	2.86E-08
211	Optical instrument and lens manufacturing	0.00E+00	7.60E-09	1.60E-08	2.36E-08
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	5.18E-08	1.13E-08	6.31E-08
226	Pump and pumping equipment manufacturing	0.00E+00	8.02E-08	3.86E-08	1.19E-07
228	Material handling equipment manufacturing	0.00E+00	7.23E-07	4.60E-08	7.69E-07
233	Fluid power process machinery manufacturing	0.00E+00	1.90E-06	8.25E-08	1.98E-06
234	Electronic computer manufacturing	0.00E+00	2.95E-08	7.10E-08	1.00E-07
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	6.98E-07	1.23E-06	1.93E-06

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		FTE Employment			
ID	Sector Description	Direct	Indirect	Induced	Total
237	Telephone apparatus manufacturing	0.00E+00	1.98E-08	3.97E-08	5.96E-08
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	8.45E-09	6.45E-08	7.30E-08
240	Audio and video equipment manufacturing	0.00E+00	4.24E-08	5.97E-08	1.02E-07
241	Electron tube manufacturing	0.00E+00	2.58E-08	3.16E-08	5.73E-08
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	4.23E-07	7.17E-08	4.95E-07
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.72E-06	2.38E-07	1.95E-06
250	Automatic environmental control manufacturing	0.00E+00	2.06E-08	2.57E-08	4.63E-08
251	Industrial process variable instruments manufacturing	0.00E+00	9.05E-08	3.06E-08	1.21E-07
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.10E-07	7.95E-08	1.89E-07
253	Electricity and signal testing instruments manufacturing	0.00E+00	9.53E-07	1.66E-07	1.12E-06
269	Relay and industrial control manufacturing	0.00E+00	1.72E-08	8.77E-09	2.59E-08
273	Wiring device manufacturing	0.00E+00	1.55E-07	3.14E-08	1.87E-07
279	Motor vehicle body manufacturing	0.00E+00	1.00E-05	3.41E-06	1.34E-05
280	Truck trailer manufacturing	0.00E+00	4.83E-07	1.85E-07	6.68E-07
282	Travel trailer and camper manufacturing	0.00E+00	8.50E-07	2.64E-08	8.77E-07
283	Motor vehicle parts manufacturing	0.00E+00	2.24E-06	1.16E-05	1.39E-05
284	Aircraft manufacturing	0.00E+00	1.73E-05	5.12E-06	2.24E-05
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	6.31E-09	1.98E-08	2.62E-08
294	All other transportation equipment manufacturing	0.00E+00	1.69E-09	6.94E-08	7.11E-08
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	1.03E-07	7.92E-07	8.94E-07
297	Nonupholstered wood household furniture manufacturing	0.00E+00	6.38E-07	1.02E-06	1.66E-06
300	Office Furniture	0.00E+00	6.91E-10	4.37E-07	4.38E-07
304	Blind and shade manufacturing	0.00E+00	3.82E-09	3.00E-06	3.00E-06
312	Doll, toy, and game manufacturing	0.00E+00	4.32E-06	7.98E-06	1.23E-05
313	Office supplies (except paper) manufacturing	0.00E+00	6.78E-09	5.12E-06	5.12E-06
317	All other miscellaneous manufacturing	0.00E+00	2.51E-07	2.15E-07	4.65E-07
319	Wholesale trade businesses	0.00E+00	7.45E-06	7.56E-06	1.50E-05
320	Retail Stores - Motor vehicle and parts	0.00E+00	2.72E-02	1.27E-02	4.00E-02
321	Retail Stores - Furniture and home furnishings	0.00E+00	4.56E-04	6.94E-03	7.40E-03
322	Retail Stores - Electronics and appliances	0.00E+00	6.84E-05	2.18E-03	2.25E-03
323	Retail Stores - Building material and garden supply	0.00E+00	4.87E-05	1.28E-03	1.33E-03
324	Retail Stores - Food and beverage	0.00E+00	3.53E-04	3.77E-03	4.13E-03
325	Retail Stores - Health and personal care	0.00E+00	4.28E-04	1.10E-02	1.14E-02
326	Retail Stores - Gasoline stations	0.00E+00	1.42E-04	3.56E-03	3.70E-03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	6.86E-05	1.37E-03	1.44E-03
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	9.28E-05	2.59E-03	2.68E-03
329	Retail Stores - General merchandise	0.00E+00	1.15E-04	3.17E-03	3.28E-03
330	Retail Stores - Miscellaneous	0.00E+00	5.04E-04	1.30E-02	1.35E-02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.53E-04	4.10E-03	4.25E-03
332	Transport by air	0.00E+00	1.23E-04	3.91E-03	4.03E-03
333	Transport by rail	0.00E+00	2.02E-06	3.65E-06	5.66E-06
334	Transport by water	0.00E+00	6.17E-04	2.50E-05	6.42E-04
335	Transport by truck	0.00E+00	7.21E-05	5.10E-06	7.72E-05
336	Transit and ground passenger transportation	0.00E+00	2.16E-02	2.46E-03	2.41E-02
337	Transport by pipeline	0.00E+00	3.48E-04	1.04E-03	1.39E-03
338	Scenic and sightseeing transportation and support activities	0.00E+00	3.30E-05	7.87E-06	4.09E-05

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		FTE Employment			
ID	Sector Description	Direct	Indirect	Induced	Total
	for transportation				
339	Couriers and messengers	0.00E+00	1.96E-03	7.54E-04	2.72E-03
340	Warehousing and storage	0.00E+00	1.86E-03	1.07E-03	2.93E-03
341	Newspaper publishers	0.00E+00	6.77E-03	1.31E-03	8.09E-03
342	Periodical publishers	0.00E+00	3.36E-04	5.58E-04	8.95E-04
343	Book publishers	0.00E+00	2.78E-05	2.37E-05	5.15E-05
344	Directory, mailing list, and other publishers	0.00E+00	1.95E-07	1.59E-06	1.78E-06
345	Software publishers	0.00E+00	1.93E-05	1.94E-05	3.87E-05
346	Motion picture and video industries	0.00E+00	3.33E-06	9.06E-07	4.24E-06
347	Sound recording industries	0.00E+00	1.33E-04	3.24E-04	4.57E-04
348	Radio and television broadcasting	0.00E+00	1.10E-06	1.78E-05	1.89E-05
349	Cable and other subscription programming	0.00E+00	1.11E-03	9.47E-04	2.05E-03
350	Internet publishing and broadcasting	0.00E+00	4.38E-05	5.27E-05	9.65E-05
351	Telecommunications	0.00E+00	1.05E-04	1.12E-04	2.17E-04
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.58E-03	2.53E-03	4.11E-03
353	Other information services	0.00E+00	4.62E-05	1.17E-04	1.63E-04
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.74E-06	5.11E-06	6.85E-06
355	Nondepository credit intermediation and related activities	0.00E+00	2.34E-02	4.52E-03	2.79E-02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	7.32E-03	6.07E-03	1.34E-02
357	Insurance carriers	0.00E+00	7.46E-03	8.65E-03	1.61E-02
358	Insurance agencies, brokerages, and related activities	0.00E+00	4.06E-04	1.28E-03	1.69E-03
359	Funds, trusts, and other financial vehicles	0.00E+00	7.44E-04	1.12E-03	1.87E-03
360	Real estate establishments	0.00E+00	3.82E-05	1.58E-03	1.62E-03
362	Automotive equipment rental and leasing	0.00E+00	7.21E-02	1.47E-02	8.68E-02
363	General and consumer goods rental except video tapes and discs	0.00E+00	3.17E-03	8.88E-04	4.06E-03
364	Video tape and disc rental	0.00E+00	5.17E-05	3.58E-04	4.10E-04
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	0.00E+00	3.28E-04	3.28E-04
366	Lessors of nonfinancial intangible assets	0.00E+00	2.66E-03	1.50E-04	2.81E-03
367	Legal services	0.00E+00	3.98E-05	1.03E-05	5.01E-05
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.51E-03	1.39E-03	2.90E-03
369	Architectural, engineering, and related services	0.00E+00	4.08E-03	1.20E-03	5.28E-03
370	Specialized design services	0.00E+00	5.50E-03	1.43E-03	6.93E-03
371	Custom computer programming services	0.00E+00	3.08E-04	1.34E-04	4.42E-04
372	Computer systems design services	0.00E+00	4.17E-04	1.04E-04	5.21E-04
373	Other computer related services, including facilities management	0.00E+00	6.44E-04	1.65E-04	8.09E-04
374	Management, scientific, and technical consulting services	0.00E+00	1.93E-04	4.08E-05	2.33E-04
375	Environmental and other technical consulting services	0.00E+00	2.59E-03	2.64E-03	5.23E-03
376	Scientific research and development services	0.00E+00	3.17E-04	3.16E-04	6.33E-04
377	Advertising and related services	0.00E+00	4.12E-03	6.38E-04	4.76E-03
378	Photographic services	0.00E+00	1.36E-03	1.11E-03	2.48E-03
379	Veterinary services	0.00E+00	6.57E-05	1.89E-04	2.55E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		FTE Employment			
ID	Sector Description	Direct	Indirect	Induced	Total
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	5.38E-06	1.53E-03	1.54E-03
381	Management of companies and enterprises	0.00E+00	5.24E-04	8.06E-05	6.05E-04
382	Employment services	0.00E+00	4.66E-03	1.10E-03	5.76E-03
383	Travel arrangement and reservation services	0.00E+00	2.32E-03	1.76E-03	4.07E-03
384	Office administrative services	0.00E+00	1.50E-04	1.14E-04	2.63E-04
386	Business support services	0.00E+00	3.67E-04	2.96E-04	6.64E-04
387	Investigation and security services	0.00E+00	9.95E-04	8.76E-04	1.87E-03
388	Services to buildings and dwellings	0.00E+00	2.55E-03	2.25E-03	4.79E-03
389	Other support services	0.00E+00	1.55E-02	5.43E-03	2.10E-02
390	Waste management and remediation services	0.00E+00	5.36E-04	2.06E-04	7.43E-04
391	Private elementary and secondary schools	0.00E+00	1.09E-03	7.82E-04	1.87E-03
393	Other private educational services	0.00E+00	0.00E+00	5.70E-03	5.70E-03
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	8.57E-05	5.34E-03	5.42E-03
395	Home health care services	0.00E+00	1.90E-08	1.43E-02	1.43E-02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	0.00E+00	1.54E-03	1.54E-03
397	Private hospitals	0.00E+00	1.61E-06	5.90E-03	5.90E-03
398	Nursing and residential care facilities	0.00E+00	1.59E-08	8.85E-03	8.85E-03
399	Child day care services	0.00E+00	0.00E+00	1.39E-02	1.39E-02
400	Individual and family services	0.00E+00	0.00E+00	5.80E-03	5.80E-03
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	0.00E+00	3.95E-03	3.95E-03
402	Performing arts companies	0.00E+00	9.49E-10	3.40E-03	3.40E-03
403	Spectator sports companies	0.00E+00	2.06E-05	1.40E-04	1.61E-04
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.76E-03	3.86E-03	5.62E-03
405	Independent artists, writers, and performers	0.00E+00	4.68E-05	2.36E-04	2.83E-04
406	Museums, historical sites, zoos, and parks	0.00E+00	2.75E-04	2.03E-04	4.78E-04
407	Fitness and recreational sports centers	0.00E+00	0.00E+00	1.39E-04	1.39E-04
408	Bowling centers	0.00E+00	3.23E-04	1.80E-03	2.12E-03
409	Amusement parks, arcades, and gambling industries	0.00E+00	4.74E-07	7.81E-05	7.86E-05
410	Other amusement and recreation industries	0.00E+00	2.26E-06	1.88E-03	1.88E-03
411	Hotels and motels, including casino hotels	0.00E+00	2.05E-04	1.36E-03	1.57E-03
412	Other accommodations	0.00E+00	6.16E-04	1.28E-04	7.45E-04
413	Food services and drinking places	0.00E+00	8.18E-07	2.26E-07	1.04E-06
414	Automotive repair and maintenance, except car washes	0.00E+00	5.80E-03	3.51E-02	4.09E-02
415	Car washes	0.00E+00	3.57E-03	3.42E-03	6.99E-03
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.32E-04	8.35E-04	9.67E-04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	3.65E-04	2.54E-04	6.19E-04
418	Personal and household goods repair and maintenance	0.00E+00	1.47E-03	5.12E-04	1.98E-03
419	Personal care services	0.00E+00	1.44E-04	1.85E-04	3.29E-04
420	Death care services	0.00E+00	1.77E-09	2.53E-03	2.53E-03
421	Dry-cleaning and laundry services	0.00E+00	0.00E+00	1.05E-04	1.05E-04
422	Other personal services	0.00E+00	2.04E-04	7.58E-04	9.62E-04
423	Religious organizations	0.00E+00	9.19E-05	1.70E-03	1.79E-03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	0.00E+00	1.42E-03	1.42E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		FTE Employment			
ID	Sector Description	Direct	Indirect	Induced	Total
425	Civic, social, professional, and similar organizations	0.00E+00	1.94E-06	2.23E-03	2.23E-03
426	Private household operations	0.00E+00	1.72E-03	4.88E-03	6.60E-03
427	US Postal Service	0.00E+00	0.00E+00	1.21E-02	1.21E-02
429	Other Federal Government enterprises	0.00E+00	1.52E-03	1.40E-03	2.91E-03
430	State and local government passenger transit	0.00E+00	1.86E-04	1.87E-04	3.73E-04
431	State and local government electric utilities	0.00E+00	3.00E-04	8.98E-04	1.20E-03
432	Other state and local government enterprises	0.00E+00	1.34E-03	2.27E-04	1.57E-03

Agricultural Production Impact		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
0	Total	4.29E+04	3.20E+04	1.34E+04	8.82E+04
1	Oilseed farming	0.00E+00	4.49E+00	1.19E-01	4.61E+00
2	Grain farming	0.00E+00	1.57E+02	1.73E+00	1.59E+02
3	Vegetable and melon farming	0.00E+00	2.03E-01	2.85E+01	2.88E+01
4	Fruit farming	0.00E+00	4.18E+01	2.99E+01	7.17E+01
5	Tree nut farming	0.00E+00	9.36E+01	7.03E+00	1.01E+02
6	Greenhouse, nursery, and floriculture production	0.00E+00	2.78E+00	1.09E+00	3.87E+00
9	Sugarcane and sugar beet farming	0.00E+00	3.26E-01	7.83E-03	3.33E-01
10	All other crop farming	4.29E+04	4.43E+02	2.32E+00	4.33E+04
11	Cattle ranching and farming	0.00E+00	8.15E+00	8.27E-02	8.23E+00
12	Dairy cattle and milk production	0.00E+00	2.18E+00	2.41E-01	2.42E+00
13	Poultry and egg production	0.00E+00	2.34E-01	2.83E-01	5.16E-01
14	Animal production, except cattle and poultry and eggs	0.00E+00	1.57E+01	1.42E+00	1.72E+01
15	Forestry, forest products, and timber tract production	0.00E+00	3.18E+00	1.03E-01	3.29E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	7.88E-02	7.88E-02
19	Support activities for agriculture and forestry	0.00E+00	1.55E+04	2.10E+01	1.56E+04
20	Extraction of oil and natural gas	0.00E+00	4.16E+01	5.61E+00	4.72E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	7.12E+00	1.67E+00	8.79E+00
29	Support activities for oil and gas operations	0.00E+00	2.86E+00	4.12E-01	3.27E+00
31	Electric power generation, transmission, and distribution	0.00E+00	7.90E+02	1.33E+02	9.23E+02
32	Natural gas distribution	0.00E+00	1.15E+01	1.83E+00	1.34E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	2.16E+00	3.65E-01	2.52E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	5.48E+02	1.30E+02	6.78E+02
40	Maintenance and repair construction of residential structures	0.00E+00	1.97E+01	4.92E+01	6.89E+01
41	Dog and cat food manufacturing	0.00E+00	4.96E-04	7.69E-02	7.74E-02
42	Other animal food manufacturing	0.00E+00	3.83E+00	1.38E+00	5.21E+00
43	Flour milling and malt manufacturing	0.00E+00	1.51E+00	2.68E+00	4.19E+00
52	Nonchocolate confectionery manufacturing	0.00E+00	7.92E-03	2.15E-01	2.23E-01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	7.99E-02	4.05E+00	4.13E+00
62	Bread and bakery product manufacturing	0.00E+00	4.17E-03	2.32E-01	2.36E-01
64	Tortilla manufacturing	0.00E+00	1.77E-04	2.03E-01	2.03E-01
69	All other food manufacturing	0.00E+00	3.86E-02	9.89E-01	1.03E+00
70	Soft drink and ice manufacturing	0.00E+00	3.96E-01	3.82E+01	3.86E+01
71	Breweries	0.00E+00	3.42E-02	3.83E+00	3.86E+00
72	Wineries	0.00E+00	5.01E-02	4.01E+00	4.06E+00
76	Broadwoven fabric mills	0.00E+00	6.65E-03	6.03E-02	6.70E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
80	Textile and fabric finishing mills	0.00E+00	2.81E-01	3.13E-01	5.93E-01
84	Textile bag and canvas mills	0.00E+00	2.62E-01	6.88E-03	2.69E-01
85	All other textile product mills	0.00E+00	5.87E-01	1.31E-01	7.18E-01
87	Cut and sew apparel contractors	0.00E+00	4.75E-01	6.93E-01	1.17E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.66E-03	2.05E-02	2.22E-02
93	Footwear manufacturing	0.00E+00	1.06E-12	1.46E-01	1.46E-01
95	Sawmills and wood preservation	0.00E+00	5.63E+00	2.25E+00	7.88E+00
97	Engineered wood member and truss manufacturing	0.00E+00	6.53E-02	5.86E-02	1.24E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	2.98E-01	8.65E-02	3.84E-01
100	Wood container and pallet manufacturing	0.00E+00	2.53E+01	3.44E+00	2.87E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	6.65E-02	2.22E-02	8.86E-02
103	All other miscellaneous wood product manufacturing	0.00E+00	3.50E-01	1.08E-01	4.58E-01
107	Paperboard container manufacturing	0.00E+00	1.55E+01	5.72E+00	2.12E+01
113	Printing	0.00E+00	3.08E+01	2.55E+01	5.63E+01
114	Support activities for printing	0.00E+00	1.19E-02	9.77E-03	2.17E-02
130	Fertilizer manufacturing	0.00E+00	7.00E+02	1.37E+00	7.01E+02
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	7.47E+02	4.12E+00	7.51E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	2.91E-03	3.13E-01	3.16E-01
134	In-vitro diagnostic substance manufacturing	0.00E+00	9.30E-04	1.26E-02	1.35E-02
135	Biological product (except diagnostic) manufacturing	0.00E+00	2.22E+00	5.55E-01	2.77E+00
140	Printing ink manufacturing	0.00E+00	3.06E-01	1.48E-01	4.54E-01
141	All other chemical product and preparation manufacturing	0.00E+00	2.74E-01	2.64E-02	3.01E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	3.86E-01	1.85E-01	5.70E-01
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	7.27E-01	2.41E-01	9.68E-01
149	Other plastics product manufacturing	0.00E+00	9.62E-01	5.48E-01	1.51E+00
150	Tire manufacturing	0.00E+00	3.44E+00	3.33E-01	3.77E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.06E+01	2.26E+00	2.28E+01
163	Other concrete product manufacturing	0.00E+00	8.78E+00	4.75E+00	1.35E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	2.71E+01	1.82E-01	2.73E+01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.21E+00	3.02E-01	1.51E+00
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.63E+00	3.24E-01	1.95E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.04E+00	7.09E-01	1.74E+00
194	Spring and wire product manufacturing	0.00E+00	4.53E-01	1.28E-01	5.81E-01
195	Machine shops	0.00E+00	3.85E-01	4.20E-02	4.27E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	5.55E-02	6.64E-03	6.21E-02
198	Valve and fittings other than plumbing manufacturing	0.00E+00	8.17E-01	1.18E-01	9.34E-01
203	Farm machinery and equipment manufacturing	0.00E+00	1.28E+01	1.92E-02	1.29E+01
205	Construction machinery manufacturing	0.00E+00	8.39E-03	3.58E-04	8.75E-03
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.54E-02	4.70E-03	2.01E-02
207	Other industrial machinery manufacturing	0.00E+00	3.38E-02	8.74E-03	4.26E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	5.70E-04	3.62E-04	9.32E-04
211	Optical instrument and lens manufacturing	0.00E+00	3.44E-04	7.23E-04	1.07E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	1.57E-03	3.44E-04	1.92E-03
226	Pump and pumping equipment manufacturing	0.00E+00	4.71E-03	2.26E-03	6.97E-03
228	Material handling equipment manufacturing	0.00E+00	3.32E-02	2.11E-03	3.53E-02
233	Fluid power process machinery manufacturing	0.00E+00	1.21E-01	5.26E-03	1.26E-01
234	Electronic computer manufacturing	0.00E+00	8.07E-03	1.94E-02	2.75E-02
236	Computer terminals and other computer peripheral	0.00E+00	1.14E-01	2.02E-01	3.16E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
	equipment manufacturing				
237	Telephone apparatus manufacturing	0.00E+00	2.56E-03	5.12E-03	7.68E-03
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	6.29E-04	4.80E-03	5.43E-03
240	Audio and video equipment manufacturing	0.00E+00	3.28E-03	4.62E-03	7.90E-03
241	Electron tube manufacturing	0.00E+00	2.70E-03	3.31E-03	6.01E-03
243	Semiconductor and related device manufacturing	0.00E+00	6.23E-02	1.05E-02	7.28E-02
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	9.22E-02	1.28E-02	1.05E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.90E-03	2.37E-03	4.27E-03
250	Automatic environmental control manufacturing	0.00E+00	5.50E-03	1.86E-03	7.35E-03
251	Industrial process variable instruments manufacturing	0.00E+00	7.09E-03	5.12E-03	1.22E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	5.73E-02	9.97E-03	6.73E-02
253	Electricity and signal testing instruments manufacturing	0.00E+00	1.86E-03	9.50E-04	2.81E-03
269	Relay and industrial control manufacturing	0.00E+00	1.02E-02	2.05E-03	1.22E-02
273	Wiring device manufacturing	0.00E+00	7.38E-01	2.52E-01	9.90E-01
279	Motor vehicle body manufacturing	0.00E+00	4.83E-02	1.85E-02	6.68E-02
280	Truck trailer manufacturing	0.00E+00	4.81E-02	1.49E-03	4.96E-02
282	Travel trailer and camper manufacturing	0.00E+00	9.03E-02	4.69E-01	5.59E-01
283	Motor vehicle parts manufacturing	0.00E+00	5.35E-01	1.58E-01	6.94E-01
284	Aircraft manufacturing	0.00E+00	4.15E-04	1.31E-03	1.72E-03
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	4.76E-05	1.95E-03	2.00E-03
294	All other transportation equipment manufacturing	0.00E+00	5.79E-03	4.47E-02	5.05E-02
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	3.65E-02	5.83E-02	9.48E-02
297	Nonupholstered wood household furniture manufacturing	0.00E+00	3.58E-05	2.26E-02	2.26E-02
300	Office Furniture	0.00E+00	1.67E-04	1.31E-01	1.31E-01
304	Blind and shade manufacturing	0.00E+00	1.62E-01	3.00E-01	4.63E-01
312	Doll, toy, and game manufacturing	0.00E+00	1.45E-03	1.10E+00	1.10E+00
313	Office supplies (except paper) manufacturing	0.00E+00	2.10E-02	1.80E-02	3.90E-02
317	All other miscellaneous manufacturing	0.00E+00	6.83E-01	6.93E-01	1.38E+00
319	Wholesale trade businesses	0.00E+00	1.47E+03	6.87E+02	2.16E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	2.92E+01	4.45E+02	4.74E+02
321	Retail Stores - Furniture and home furnishings	0.00E+00	3.20E+00	1.02E+02	1.05E+02
322	Retail Stores - Electronics and appliances	0.00E+00	1.51E+00	3.96E+01	4.11E+01
323	Retail Stores - Building material and garden supply	0.00E+00	1.75E+01	1.87E+02	2.05E+02
324	Retail Stores - Food and beverage	0.00E+00	2.07E+01	5.30E+02	5.50E+02
325	Retail Stores - Health and personal care	0.00E+00	6.76E+00	1.70E+02	1.77E+02
326	Retail Stores - Gasoline stations	0.00E+00	8.96E+00	1.79E+02	1.88E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	2.38E+00	6.66E+01	6.90E+01
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	2.86E+00	7.85E+01	8.13E+01
329	Retail Stores - General merchandise	0.00E+00	1.71E+01	4.42E+02	4.59E+02
330	Retail Stores - Miscellaneous	0.00E+00	4.02E+00	1.07E+02	1.11E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.68E+00	5.35E+01	5.52E+01
332	Transport by air	0.00E+00	2.90E-03	5.25E-03	8.14E-03
333	Transport by rail	0.00E+00	6.53E+01	2.65E+00	6.80E+01
334	Transport by water	0.00E+00	6.77E+00	4.79E-01	7.25E+00
335	Transport by truck	0.00E+00	1.75E+03	2.00E+02	1.95E+03
336	Transit and ground passenger transportation	0.00E+00	1.75E+01	5.24E+01	6.99E+01
337	Transport by pipeline	0.00E+00	3.77E+00	8.97E-01	4.66E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	1.35E+02	5.18E+01	1.86E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
339	Couriers and messengers	0.00E+00	1.17E+02	6.74E+01	1.85E+02
340	Warehousing and storage	0.00E+00	3.77E+02	7.31E+01	4.50E+02
341	Newspaper publishers	0.00E+00	1.67E+01	2.77E+01	4.43E+01
342	Periodical publishers	0.00E+00	1.96E+00	1.67E+00	3.64E+00
343	Book publishers	0.00E+00	1.17E-02	9.58E-02	1.07E-01
344	Directory, mailing list, and other publishers	0.00E+00	1.32E+00	1.33E+00	2.65E+00
345	Software publishers	0.00E+00	3.17E-01	8.61E-02	4.03E-01
346	Motion picture and video industries	0.00E+00	2.68E+00	6.53E+00	9.21E+00
347	Sound recording industries	0.00E+00	6.92E-02	1.12E+00	1.19E+00
348	Radio and television broadcasting	0.00E+00	7.47E+01	6.40E+01	1.39E+02
349	Cable and other subscription programming	0.00E+00	1.27E+00	1.52E+00	2.79E+00
350	Internet publishing and broadcasting	0.00E+00	1.06E+01	1.13E+01	2.19E+01
351	Telecommunications	0.00E+00	1.14E+02	1.83E+02	2.97E+02
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.46E+00	3.68E+00	5.14E+00
353	Other information services	0.00E+00	7.15E-02	2.09E-01	2.81E-01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.12E+03	2.15E+02	1.33E+03
355	Nondepository credit intermediation and related activities	0.00E+00	4.81E+02	3.99E+02	8.80E+02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	4.87E+01	5.65E+01	1.05E+02
357	Insurance carriers	0.00E+00	2.95E+01	9.32E+01	1.23E+02
358	Insurance agencies, brokerages, and related activities	0.00E+00	6.46E+01	9.74E+01	1.62E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	1.40E+00	5.79E+01	5.93E+01
360	Real estate establishments	0.00E+00	1.62E+03	3.30E+02	1.95E+03
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	Automotive equipment rental and leasing	0.00E+00	1.87E+02	5.23E+01	2.39E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	2.07E+00	1.43E+01	1.64E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	5.33E+00	5.33E+00
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	2.12E+02	1.20E+01	2.24E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	2.29E+00	5.95E-01	2.88E+00
367	Legal services	0.00E+00	5.66E+01	5.20E+01	1.09E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.45E+02	4.28E+01	1.88E+02
369	Architectural, engineering, and related services	0.00E+00	3.20E+02	8.28E+01	4.02E+02
370	Specialized design services	0.00E+00	8.29E+00	3.61E+00	1.19E+01
371	Custom computer programming services	0.00E+00	3.00E+01	7.46E+00	3.75E+01
372	Computer systems design services	0.00E+00	3.65E+01	9.34E+00	4.59E+01
373	Other computer related services, including facilities management	0.00E+00	1.07E+01	2.28E+00	1.30E+01
374	Management, scientific, and technical consulting services	0.00E+00	1.45E+02	1.48E+02	2.94E+02
375	Environmental and other technical consulting services	0.00E+00	1.83E+01	1.82E+01	3.65E+01
376	Scientific research and development services	0.00E+00	2.67E+02	4.13E+01	3.08E+02
377	Advertising and related services	0.00E+00	4.27E+01	3.49E+01	7.76E+01
378	Photographic services	0.00E+00	2.08E+00	5.99E+00	8.06E+00
379	Veterinary services	0.00E+00	2.27E-01	6.48E+01	6.50E+01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	2.63E+01	4.03E+00	3.03E+01
381	Management of companies and enterprises	0.00E+00	4.53E+02	1.07E+02	5.60E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
382	Employment services	0.00E+00	6.32E+01	4.79E+01	1.11E+02
383	Travel arrangement and reservation services	0.00E+00	5.40E+00	4.10E+00	9.50E+00
384	Office administrative services	0.00E+00	2.70E+01	2.18E+01	4.89E+01
386	Business support services	0.00E+00	3.32E+01	2.92E+01	6.24E+01
387	Investigation and security services	0.00E+00	5.28E+01	4.66E+01	9.94E+01
388	Services to buildings and dwellings	0.00E+00	3.74E+02	1.31E+02	5.04E+02
389	Other support services	0.00E+00	1.62E+01	6.22E+00	2.24E+01
390	Waste management and remediation services	0.00E+00	8.07E+01	5.80E+01	1.39E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.29E+02	1.29E+02
393	Other private educational services	0.00E+00	1.31E+00	8.15E+01	8.28E+01
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	1.85E-03	1.39E+03	1.39E+03
395	Home health care services	0.00E+00	0.00E+00	7.97E+01	7.97E+01
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	1.15E-01	4.23E+02	4.23E+02
397	Private hospitals	0.00E+00	1.56E-03	8.70E+02	8.70E+02
398	Nursing and residential care facilities	0.00E+00	0.00E+00	5.27E+02	5.27E+02
399	Child day care services	0.00E+00	0.00E+00	1.25E+02	1.25E+02
400	Individual and family services	0.00E+00	0.00E+00	1.53E+02	1.53E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	3.18E-05	1.14E+02	1.14E+02
402	Performing arts companies	0.00E+00	1.42E-01	9.64E-01	1.11E+00
403	Spectator sports companies	0.00E+00	1.51E+01	3.33E+01	4.84E+01
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	3.44E-01	1.74E+00	2.08E+00
405	Independent artists, writers, and performers	0.00E+00	1.87E+01	1.38E+01	3.26E+01
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.34E+00	1.34E+00
407	Fitness and recreational sports centers	0.00E+00	3.28E+00	1.83E+01	2.15E+01
408	Bowling centers	0.00E+00	5.39E-03	8.88E-01	8.93E-01
409	Amusement parks, arcades, and gambling industries	0.00E+00	4.17E-02	3.46E+01	3.47E+01
410	Other amusement and recreation industries	0.00E+00	5.72E+00	3.80E+01	4.37E+01
411	Hotels and motels, including casino hotels	0.00E+00	1.40E+01	2.91E+00	1.69E+01
412	Other accommodations	0.00E+00	1.83E-02	5.05E-03	2.33E-02
413	Food services and drinking places	0.00E+00	1.35E+02	8.21E+02	9.57E+02
414	Automotive repair and maintenance, except car washes	0.00E+00	2.11E+02	2.02E+02	4.13E+02
415	Car washes	0.00E+00	2.68E+00	1.69E+01	1.96E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	2.82E+01	1.96E+01	4.78E+01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	9.07E+01	3.16E+01	1.22E+02
418	Personal and household goods repair and maintenance	0.00E+00	6.82E+00	8.76E+00	1.56E+01
419	Personal care services	0.00E+00	6.43E-05	9.17E+01	9.17E+01
420	Death care services	0.00E+00	0.00E+00	3.63E+00	3.63E+00
421	Dry-cleaning and laundry services	0.00E+00	1.35E+01	5.04E+01	6.39E+01
422	Other personal services	0.00E+00	4.83E+00	8.91E+01	9.39E+01
423	Religious organizations	0.00E+00	0.00E+00	4.51E+01	4.51E+01
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.50E-01	1.73E+02	1.73E+02
425	Civic, social, professional, and similar organizations	0.00E+00	1.22E+02	3.46E+02	4.69E+02
426	Private household operations	0.00E+00	0.00E+00	1.42E+02	1.42E+02
427	US Postal Service	0.00E+00	1.62E+02	1.49E+02	3.11E+02
429	Other Federal Government enterprises	0.00E+00	1.26E+01	1.27E+01	2.53E+01
430	State and local government passenger transit	0.00E+00	2.29E+01	6.85E+01	9.14E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
431	State and local government electric utilities	0.00E+00	2.03E+02	3.43E+01	2.37E+02
432	Other state and local government enterprises	0.00E+00	1.28E+03	3.51E+02	1.63E+03

Agricultural Production Impact		Value Added			
ID	Description	Direct	Indirect	Induced	Total
0	Total	4.99E+04	5.65E+04	2.75E+04	1.34E+05
1	Oilseed farming	0.00E+00	1.46E+01	3.86E-01	1.49E+01
2	Grain farming	0.00E+00	2.66E+02	2.93E+00	2.69E+02
3	Vegetable and melon farming	0.00E+00	2.36E-01	3.30E+01	3.33E+01
4	Fruit farming	0.00E+00	4.50E+01	3.22E+01	7.72E+01
5	Tree nut farming	0.00E+00	9.96E+01	7.49E+00	1.07E+02
6	Greenhouse, nursery, and floriculture production	0.00E+00	2.59E+00	1.01E+00	3.60E+00
9	Sugarcane and sugar beet farming	0.00E+00	5.59E-01	1.34E-02	5.73E-01
10	All other crop farming	4.99E+04	5.15E+02	2.70E+00	5.04E+04
11	Cattle ranching and farming	0.00E+00	1.39E+01	1.41E-01	1.40E+01
12	Dairy cattle and milk production	0.00E+00	1.08E+01	1.20E+00	1.20E+01
13	Poultry and egg production	0.00E+00	3.16E-01	3.82E-01	6.98E-01
14	Animal production, except cattle and poultry and eggs	0.00E+00	3.80E+01	3.44E+00	4.15E+01
15	Forestry, forest products, and timber tract production	0.00E+00	7.11E+00	2.30E-01	7.34E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	1.45E-01	1.45E-01
19	Support activities for agriculture and forestry	0.00E+00	1.53E+04	2.06E+01	1.53E+04
20	Extraction of oil and natural gas	0.00E+00	1.00E+02	1.36E+01	1.14E+02
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	8.66E+00	2.03E+00	1.07E+01
29	Support activities for oil and gas operations	0.00E+00	3.03E+00	4.36E-01	3.46E+00
31	Electric power generation, transmission, and distribution	0.00E+00	3.02E+03	5.08E+02	3.53E+03
32	Natural gas distribution	0.00E+00	3.88E+01	6.15E+00	4.50E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	6.08E+00	1.03E+00	7.10E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	6.79E+02	1.61E+02	8.40E+02
40	Maintenance and repair construction of residential structures	0.00E+00	2.40E+01	5.97E+01	8.37E+01
41	Dog and cat food manufacturing	0.00E+00	2.21E-03	3.43E-01	3.45E-01
42	Other animal food manufacturing	0.00E+00	9.03E+00	3.26E+00	1.23E+01
43	Flour milling and malt manufacturing	0.00E+00	3.52E+00	6.23E+00	9.75E+00
52	Nonchocolate confectionery manufacturing	0.00E+00	1.41E-02	3.82E-01	3.96E-01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.71E-01	8.65E+00	8.82E+00
62	Bread and bakery product manufacturing	0.00E+00	9.57E-03	5.32E-01	5.42E-01
64	Tortilla manufacturing	0.00E+00	6.71E-04	7.69E-01	7.70E-01
69	All other food manufacturing	0.00E+00	6.29E-02	1.61E+00	1.68E+00
70	Soft drink and ice manufacturing	0.00E+00	5.38E-01	5.19E+01	5.24E+01
71	Breweries	0.00E+00	1.66E-01	1.86E+01	1.87E+01
72	Wineries	0.00E+00	8.45E-02	6.76E+00	6.84E+00
76	Broadwoven fabric mills	0.00E+00	1.37E-02	1.24E-01	1.38E-01
80	Textile and fabric finishing mills	0.00E+00	4.08E-01	4.54E-01	8.62E-01
84	Textile bag and canvas mills	0.00E+00	3.83E-01	1.01E-02	3.93E-01
85	All other textile product mills	0.00E+00	9.92E-01	2.22E-01	1.21E+00
87	Cut and sew apparel contractors	0.00E+00	6.20E-01	9.04E-01	1.52E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.47E-03	1.82E-02	1.97E-02
93	Footwear manufacturing	0.00E+00	1.30E-12	1.78E-01	1.78E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Value Added			
ID	Description	Direct	Indirect	Induced	Total
95	Sawmills and wood preservation	0.00E+00	6.36E+00	2.54E+00	8.90E+00
97	Engineered wood member and truss manufacturing	0.00E+00	8.42E-02	7.56E-02	1.60E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	3.44E-01	9.99E-02	4.44E-01
100	Wood container and pallet manufacturing	0.00E+00	3.16E+01	4.31E+00	3.59E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	6.51E-02	2.17E-02	8.68E-02
103	All other miscellaneous wood product manufacturing	0.00E+00	5.85E-01	1.81E-01	7.67E-01
107	Paperboard container manufacturing	0.00E+00	2.11E+01	7.82E+00	2.89E+01
113	Printing	0.00E+00	3.75E+01	3.11E+01	6.85E+01
114	Support activities for printing	0.00E+00	1.38E-02	1.13E-02	2.51E-02
130	Fertilizer manufacturing	0.00E+00	1.08E+03	2.12E+00	1.08E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	2.55E+03	1.41E+01	2.57E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	1.96E-02	2.11E+00	2.13E+00
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.37E-03	1.85E-02	1.99E-02
135	Biological product (except diagnostic) manufacturing	0.00E+00	4.18E+00	1.05E+00	5.23E+00
140	Printing ink manufacturing	0.00E+00	2.75E-01	1.33E-01	4.08E-01
141	All other chemical product and preparation manufacturing	0.00E+00	3.60E-01	3.47E-02	3.95E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	5.96E-01	2.85E-01	8.81E-01
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	9.87E-01	3.27E-01	1.31E+00
149	Other plastics product manufacturing	0.00E+00	1.44E+00	8.22E-01	2.26E+00
150	Tire manufacturing	0.00E+00	5.03E+00	4.87E-01	5.52E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	3.27E+01	3.59E+00	3.63E+01
163	Other concrete product manufacturing	0.00E+00	1.17E+01	6.34E+00	1.81E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	7.86E+01	5.28E-01	7.91E+01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	2.41E+00	5.99E-01	3.01E+00
186	Plate work and fabricated structural product manufacturing	0.00E+00	2.39E+00	4.76E-01	2.87E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.42E+00	9.72E-01	2.39E+00
194	Spring and wire product manufacturing	0.00E+00	8.09E-01	2.29E-01	1.04E+00
195	Machine shops	0.00E+00	4.70E-01	5.12E-02	5.21E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	8.43E-02	1.01E-02	9.44E-02
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.69E+00	2.44E-01	1.93E+00
203	Farm machinery and equipment manufacturing	0.00E+00	2.95E+01	4.41E-02	2.95E+01
205	Construction machinery manufacturing	0.00E+00	1.36E-02	5.79E-04	1.41E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	2.19E-02	6.68E-03	2.86E-02
207	Other industrial machinery manufacturing	0.00E+00	3.93E-02	1.01E-02	4.94E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	8.31E-04	5.29E-04	1.36E-03
211	Optical instrument and lens manufacturing	0.00E+00	5.88E-04	1.24E-03	1.83E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	2.06E-03	4.51E-04	2.51E-03
226	Pump and pumping equipment manufacturing	0.00E+00	9.09E-03	4.37E-03	1.35E-02
228	Material handling equipment manufacturing	0.00E+00	5.59E-02	3.56E-03	5.94E-02
233	Fluid power process machinery manufacturing	0.00E+00	1.88E-01	8.20E-03	1.97E-01
234	Electronic computer manufacturing	0.00E+00	2.22E-02	5.34E-02	7.56E-02
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	1.36E-01	2.40E-01	3.76E-01
237	Telephone apparatus manufacturing	0.00E+00	5.25E-03	1.05E-02	1.58E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	7.55E-04	5.77E-03	6.52E-03
240	Audio and video equipment manufacturing	0.00E+00	4.14E-03	5.83E-03	9.97E-03
241	Electron tube manufacturing	0.00E+00	2.21E-03	2.71E-03	4.92E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Value Added			
ID	Description	Direct	Indirect	Induced	Total
243	Semiconductor and related device manufacturing	0.00E+00	1.63E-01	2.75E-02	1.90E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	1.19E-01	1.65E-02	1.36E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.93E-03	3.64E-03	6.57E-03
250	Automatic environmental control manufacturing	0.00E+00	8.47E-03	2.86E-03	1.13E-02
251	Industrial process variable instruments manufacturing	0.00E+00	8.56E-03	6.19E-03	1.47E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	8.27E-02	1.44E-02	9.71E-02
253	Electricity and signal testing instruments manufacturing	0.00E+00	2.54E-03	1.30E-03	3.83E-03
269	Relay and industrial control manufacturing	0.00E+00	1.90E-02	3.84E-03	2.28E-02
273	Wiring device manufacturing	0.00E+00	1.55E+00	5.29E-01	2.08E+00
279	Motor vehicle body manufacturing	0.00E+00	6.90E-02	2.65E-02	9.55E-02
280	Truck trailer manufacturing	0.00E+00	5.10E-02	1.58E-03	5.26E-02
282	Travel trailer and camper manufacturing	0.00E+00	8.91E-02	4.63E-01	5.52E-01
283	Motor vehicle parts manufacturing	0.00E+00	8.71E-01	2.58E-01	1.13E+00
284	Aircraft manufacturing	0.00E+00	8.71E-04	2.74E-03	3.61E-03
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.35E-04	5.55E-03	5.68E-03
294	All other transportation equipment manufacturing	0.00E+00	1.29E-02	9.93E-02	1.12E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	3.36E-02	5.36E-02	8.72E-02
297	Nonupholstered wood household furniture manufacturing	0.00E+00	4.76E-05	3.01E-02	3.01E-02
300	Office Furniture	0.00E+00	4.11E-04	3.22E-01	3.23E-01
304	Blind and shade manufacturing	0.00E+00	1.76E-01	3.25E-01	5.00E-01
312	Doll, toy, and game manufacturing	0.00E+00	2.33E-03	1.76E+00	1.76E+00
313	Office supplies (except paper) manufacturing	0.00E+00	3.85E-02	3.30E-02	7.14E-02
317	All other miscellaneous manufacturing	0.00E+00	1.08E+00	1.10E+00	2.18E+00
319	Wholesale trade businesses	0.00E+00	3.22E+03	1.50E+03	4.72E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	3.27E+01	4.98E+02	5.30E+02
321	Retail Stores - Furniture and home furnishings	0.00E+00	5.25E+00	1.67E+02	1.73E+02
322	Retail Stores - Electronics and appliances	0.00E+00	2.77E+00	7.29E+01	7.57E+01
323	Retail Stores - Building material and garden supply	0.00E+00	2.54E+01	2.71E+02	2.97E+02
324	Retail Stores - Food and beverage	0.00E+00	2.86E+01	7.31E+02	7.60E+02
325	Retail Stores - Health and personal care	0.00E+00	9.25E+00	2.32E+02	2.42E+02
326	Retail Stores - Gasoline stations	0.00E+00	1.26E+01	2.53E+02	2.65E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	3.66E+00	1.02E+02	1.06E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	4.68E+00	1.29E+02	1.33E+02
329	Retail Stores - General merchandise	0.00E+00	2.73E+01	7.03E+02	7.30E+02
330	Retail Stores - Miscellaneous	0.00E+00	6.54E+00	1.75E+02	1.81E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	4.29E+00	1.37E+02	1.41E+02
332	Transport by air	0.00E+00	6.54E-02	1.18E-01	1.84E-01
333	Transport by rail	0.00E+00	1.13E+02	4.59E+00	1.18E+02
334	Transport by water	0.00E+00	1.60E+01	1.13E+00	1.71E+01
335	Transport by truck	0.00E+00	2.01E+03	2.29E+02	2.24E+03
336	Transit and ground passenger transportation	0.00E+00	2.25E+01	6.73E+01	8.98E+01
337	Transport by pipeline	0.00E+00	3.11E+00	7.41E-01	3.85E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	1.54E+02	5.93E+01	2.13E+02
339	Couriers and messengers	0.00E+00	1.82E+02	1.04E+02	2.86E+02
340	Warehousing and storage	0.00E+00	4.78E+02	9.27E+01	5.70E+02
341	Newspaper publishers	0.00E+00	2.40E+01	3.98E+01	6.37E+01
342	Periodical publishers	0.00E+00	3.20E+00	2.73E+00	5.93E+00
343	Book publishers	0.00E+00	3.14E-02	2.57E-01	2.88E-01
344	Directory, mailing list, and other publishers	0.00E+00	3.32E+00	3.33E+00	6.65E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Value Added			
ID	Description	Direct	Indirect	Induced	Total
345	Software publishers	0.00E+00	1.09E+00	2.95E-01	1.38E+00
346	Motion picture and video industries	0.00E+00	2.05E+01	4.99E+01	7.04E+01
347	Sound recording industries	0.00E+00	5.52E-01	8.92E+00	9.47E+00
348	Radio and television broadcasting	0.00E+00	9.35E+01	8.00E+01	1.73E+02
349	Cable and other subscription programming	0.00E+00	4.19E+00	5.04E+00	9.23E+00
350	Internet publishing and broadcasting	0.00E+00	1.02E+01	1.09E+01	2.10E+01
351	Telecommunications	0.00E+00	4.59E+02	7.35E+02	1.19E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.16E+01	2.93E+01	4.09E+01
353	Other information services	0.00E+00	1.03E+00	3.03E+00	4.06E+00
354	Monetary authorities and depository credit intermediation activities	0.00E+00	4.80E+03	9.27E+02	5.73E+03
355	Nondepository credit intermediation and related activities	0.00E+00	5.57E+02	4.62E+02	1.02E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	6.32E+01	7.32E+01	1.36E+02
357	Insurance carriers	0.00E+00	9.31E+01	2.94E+02	3.87E+02
358	Insurance agencies, brokerages, and related activities	0.00E+00	7.79E+01	1.17E+02	1.95E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	5.29E+00	2.18E+02	2.24E+02
360	Real estate establishments	0.00E+00	1.34E+04	2.73E+03	1.61E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	5.93E+03	5.93E+03
362	Automotive equipment rental and leasing	0.00E+00	5.18E+02	1.45E+02	6.63E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	2.69E+00	1.86E+01	2.13E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	1.58E+01	1.58E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	4.71E+02	2.66E+01	4.98E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	7.66E+01	1.99E+01	9.65E+01
367	Legal services	0.00E+00	1.38E+02	1.27E+02	2.65E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	2.40E+02	7.09E+01	3.11E+02
369	Architectural, engineering, and related services	0.00E+00	3.28E+02	8.49E+01	4.13E+02
370	Specialized design services	0.00E+00	2.77E+01	1.21E+01	3.98E+01
371	Custom computer programming services	0.00E+00	2.60E+01	6.46E+00	3.25E+01
372	Computer systems design services	0.00E+00	3.27E+00	8.37E-01	4.11E+00
373	Other computer related services, including facilities management	0.00E+00	4.13E+01	8.76E+00	5.01E+01
374	Management, scientific, and technical consulting services	0.00E+00	1.57E+02	1.61E+02	3.18E+02
375	Environmental and other technical consulting services	0.00E+00	1.84E+01	1.83E+01	3.67E+01
376	Scientific research and development services	0.00E+00	2.67E+02	4.14E+01	3.09E+02
377	Advertising and related services	0.00E+00	1.10E+02	8.97E+01	1.99E+02
378	Photographic services	0.00E+00	5.49E+00	1.58E+01	2.13E+01
379	Veterinary services	0.00E+00	2.28E-01	6.50E+01	6.52E+01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.01E+02	1.55E+01	1.16E+02
381	Management of companies and enterprises	0.00E+00	5.34E+02	1.26E+02	6.60E+02
382	Employment services	0.00E+00	6.94E+01	5.27E+01	1.22E+02
383	Travel arrangement and reservation services	0.00E+00	1.19E+01	9.07E+00	2.10E+01
384	Office administrative services	0.00E+00	2.46E+01	1.99E+01	4.44E+01
386	Business support services	0.00E+00	3.27E+01	2.88E+01	6.15E+01
387	Investigation and security services	0.00E+00	5.42E+01	4.79E+01	1.02E+02
388	Services to buildings and dwellings	0.00E+00	5.23E+02	1.83E+02	7.06E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Value Added			
ID	Description	Direct	Indirect	Induced	Total
389	Other support services	0.00E+00	3.26E+01	1.26E+01	4.52E+01
390	Waste management and remediation services	0.00E+00	1.51E+02	1.09E+02	2.60E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	5.29E+01	5.29E+01
393	Other private educational services	0.00E+00	1.25E+00	7.79E+01	7.92E+01
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	1.90E-03	1.43E+03	1.43E+03
395	Home health care services	0.00E+00	0.00E+00	8.12E+01	8.12E+01
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	1.53E-01	5.59E+02	5.59E+02
397	Private hospitals	0.00E+00	1.70E-03	9.47E+02	9.47E+02
398	Nursing and residential care facilities	0.00E+00	0.00E+00	6.07E+02	6.07E+02
399	Child day care services	0.00E+00	0.00E+00	1.68E+02	1.68E+02
400	Individual and family services	0.00E+00	0.00E+00	1.46E+02	1.46E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	3.07E-05	1.10E+02	1.10E+02
402	Performing arts companies	0.00E+00	1.13E-01	7.65E-01	8.78E-01
403	Spectator sports companies	0.00E+00	1.76E+01	3.87E+01	5.64E+01
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	6.89E-01	3.48E+00	4.17E+00
405	Independent artists, writers, and performers	0.00E+00	3.36E+01	2.48E+01	5.84E+01
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	7.60E+00	7.60E+00
407	Fitness and recreational sports centers	0.00E+00	6.40E+00	3.56E+01	4.20E+01
408	Bowling centers	0.00E+00	1.59E-02	2.63E+00	2.64E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	1.44E-01	1.19E+02	1.19E+02
410	Other amusement and recreation industries	0.00E+00	1.05E+01	7.00E+01	8.05E+01
411	Hotels and motels, including casino hotels	0.00E+00	3.69E+01	7.68E+00	4.46E+01
412	Other accommodations	0.00E+00	2.85E-02	7.87E-03	3.64E-02
413	Food services and drinking places	0.00E+00	2.29E+02	1.39E+03	1.62E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	2.45E+02	2.34E+02	4.79E+02
415	Car washes	0.00E+00	3.03E+00	1.91E+01	2.21E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	4.19E+01	2.91E+01	7.10E+01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.19E+02	4.14E+01	1.60E+02
418	Personal and household goods repair and maintenance	0.00E+00	9.50E+00	1.22E+01	2.17E+01
419	Personal care services	0.00E+00	6.97E-05	9.94E+01	9.94E+01
420	Death care services	0.00E+00	0.00E+00	2.59E+00	2.59E+00
421	Dry-cleaning and laundry services	0.00E+00	1.38E+01	5.13E+01	6.51E+01
422	Other personal services	0.00E+00	5.89E+00	1.09E+02	1.15E+02
423	Religious organizations	0.00E+00	0.00E+00	5.14E+01	5.14E+01
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.46E-01	1.68E+02	1.68E+02
425	Civic, social, professional, and similar organizations	0.00E+00	1.22E+02	3.46E+02	4.68E+02
426	Private household operations	0.00E+00	0.00E+00	1.42E+02	1.42E+02
427	US Postal Service	0.00E+00	1.58E+02	1.46E+02	3.03E+02
429	Other Federal Government enterprises	0.00E+00	1.65E+01	1.65E+01	3.30E+01
430	State and local government passenger transit	0.00E+00	1.78E+00	5.32E+00	7.10E+00
431	State and local government electric utilities	0.00E+00	3.53E+02	5.97E+01	4.13E+02
432	Other state and local government enterprises	0.00E+00	1.08E+03	2.98E+02	1.38E+03

Agricultural Production Impact		Output			
ID	Description	Direct	Indirect	Induced	Total

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Output			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.48E+05	9.51E+04	4.29E+04	2.86E+05
1	Oilseed farming	0.00E+00	3.22E+01	8.55E-01	3.31E+01
2	Grain farming	0.00E+00	1.19E+03	1.32E+01	1.20E+03
3	Vegetable and melon farming	0.00E+00	4.24E-01	5.95E+01	5.99E+01
4	Fruit farming	0.00E+00	7.76E+01	5.55E+01	1.33E+02
5	Tree nut farming	0.00E+00	1.66E+02	1.25E+01	1.79E+02
6	Greenhouse, nursery, and floriculture production	0.00E+00	3.58E+00	1.40E+00	4.98E+00
9	Sugarcane and sugar beet farming	0.00E+00	1.23E+00	2.96E-02	1.26E+00
10	All other crop farming	1.48E+05	1.53E+03	7.99E+00	1.49E+05
11	Cattle ranching and farming	0.00E+00	7.86E+01	7.98E-01	7.94E+01
12	Dairy cattle and milk production	0.00E+00	2.78E+01	3.08E+00	3.09E+01
13	Poultry and egg production	0.00E+00	1.63E+00	1.97E+00	3.61E+00
14	Animal production, except cattle and poultry and eggs	0.00E+00	7.30E+01	6.60E+00	7.97E+01
15	Forestry, forest products, and timber tract production	0.00E+00	1.25E+01	4.04E-01	1.29E+01
18	Commercial hunting and trapping	0.00E+00	0.00E+00	3.34E-01	3.34E-01
19	Support activities for agriculture and forestry	0.00E+00	1.85E+04	2.50E+01	1.85E+04
20	Extraction of oil and natural gas	0.00E+00	1.62E+02	2.18E+01	1.83E+02
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.50E+01	3.51E+00	1.85E+01
29	Support activities for oil and gas operations	0.00E+00	8.04E+00	1.16E+00	9.19E+00
31	Electric power generation, transmission, and distribution	0.00E+00	3.38E+03	5.68E+02	3.95E+03
32	Natural gas distribution	0.00E+00	9.05E+01	1.43E+01	1.05E+02
33	Water, sewage and other treatment and delivery systems	0.00E+00	7.62E+00	1.29E+00	8.91E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	1.21E+03	2.87E+02	1.50E+03
40	Maintenance and repair construction of residential structures	0.00E+00	5.03E+01	1.25E+02	1.75E+02
41	Dog and cat food manufacturing	0.00E+00	6.03E-03	9.35E-01	9.41E-01
42	Other animal food manufacturing	0.00E+00	5.54E+01	2.00E+01	7.54E+01
43	Flour milling and malt manufacturing	0.00E+00	2.53E+01	4.49E+01	7.02E+01
52	Nonchocolate confectionery manufacturing	0.00E+00	4.85E-02	1.31E+00	1.36E+00
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	6.99E-01	3.54E+01	3.61E+01
62	Bread and bakery product manufacturing	0.00E+00	5.01E-02	2.79E+00	2.84E+00
64	Tortilla manufacturing	0.00E+00	2.99E-03	3.42E+00	3.43E+00
69	All other food manufacturing	0.00E+00	2.37E-01	6.07E+00	6.30E+00
70	Soft drink and ice manufacturing	0.00E+00	3.54E+00	3.42E+02	3.45E+02
71	Breweries	0.00E+00	3.74E-01	4.19E+01	4.23E+01
72	Wineries	0.00E+00	2.73E-01	2.18E+01	2.21E+01
76	Broadwoven fabric mills	0.00E+00	4.36E-02	3.96E-01	4.39E-01
80	Textile and fabric finishing mills	0.00E+00	1.47E+00	1.64E+00	3.11E+00
84	Textile bag and canvas mills	0.00E+00	8.12E-01	2.13E-02	8.33E-01
85	All other textile product mills	0.00E+00	2.68E+00	5.99E-01	3.28E+00
87	Cut and sew apparel contractors	0.00E+00	1.28E+00	1.87E+00	3.15E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	7.81E-03	9.66E-02	1.04E-01
93	Footwear manufacturing	0.00E+00	3.38E-12	4.64E-01	4.64E-01
95	Sawmills and wood preservation	0.00E+00	2.44E+01	9.76E+00	3.42E+01
97	Engineered wood member and truss manufacturing	0.00E+00	2.16E-01	1.94E-01	4.10E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.09E+00	3.18E-01	1.41E+00
100	Wood container and pallet manufacturing	0.00E+00	6.90E+01	9.40E+00	7.83E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	2.24E-01	7.48E-02	2.99E-01
103	All other miscellaneous wood product manufacturing	0.00E+00	1.43E+00	4.44E-01	1.88E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Output			
ID	Description	Direct	Indirect	Induced	Total
107	Paperboard container manufacturing	0.00E+00	9.36E+01	3.46E+01	1.28E+02
113	Printing	0.00E+00	9.62E+01	7.98E+01	1.76E+02
114	Support activities for printing	0.00E+00	2.60E-02	2.13E-02	4.74E-02
130	Fertilizer manufacturing	0.00E+00	7.94E+03	1.56E+01	7.95E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	8.57E+03	4.72E+01	8.62E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	6.56E-02	7.06E+00	7.13E+00
134	In-vitro diagnostic substance manufacturing	0.00E+00	7.87E-03	1.07E-01	1.14E-01
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.51E+01	3.77E+00	1.88E+01
140	Printing ink manufacturing	0.00E+00	1.09E+00	5.27E-01	1.61E+00
141	All other chemical product and preparation manufacturing	0.00E+00	1.22E+00	1.18E-01	1.34E+00
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.78E+00	8.52E-01	2.63E+00
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	2.67E+00	8.87E-01	3.56E+00
149	Other plastics product manufacturing	0.00E+00	4.14E+00	2.36E+00	6.50E+00
150	Tire manufacturing	0.00E+00	1.71E+01	1.65E+00	1.87E+01
162	Concrete pipe, brick, and block manufacturing	0.00E+00	6.97E+01	7.65E+00	7.74E+01
163	Other concrete product manufacturing	0.00E+00	2.33E+01	1.26E+01	3.59E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	1.68E+02	1.13E+00	1.69E+02
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	6.15E+00	1.53E+00	7.68E+00
186	Plate work and fabricated structural product manufacturing	0.00E+00	5.84E+00	1.16E+00	7.00E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	3.82E+00	2.62E+00	6.43E+00
194	Spring and wire product manufacturing	0.00E+00	1.76E+00	4.98E-01	2.26E+00
195	Machine shops	0.00E+00	9.11E-01	9.93E-02	1.01E+00
197	Coating, engraving, heat treating and allied activities	0.00E+00	1.96E-01	2.35E-02	2.19E-01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	3.42E+00	4.93E-01	3.91E+00
203	Farm machinery and equipment manufacturing	0.00E+00	1.09E+02	1.63E-01	1.09E+02
205	Construction machinery manufacturing	0.00E+00	6.32E-02	2.70E-03	6.58E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	6.60E-02	2.01E-02	8.61E-02
207	Other industrial machinery manufacturing	0.00E+00	1.02E-01	2.63E-02	1.28E-01
208	Plastics and rubber industry machinery manufacturing	0.00E+00	3.87E-03	2.46E-03	6.32E-03
211	Optical instrument and lens manufacturing	0.00E+00	2.13E-03	4.47E-03	6.59E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	5.84E-03	1.28E-03	7.12E-03
226	Pump and pumping equipment manufacturing	0.00E+00	3.08E-02	1.48E-02	4.57E-02
228	Material handling equipment manufacturing	0.00E+00	2.39E-01	1.52E-02	2.55E-01
233	Fluid power process machinery manufacturing	0.00E+00	5.12E-01	2.23E-02	5.35E-01
234	Electronic computer manufacturing	0.00E+00	3.96E-02	9.54E-02	1.35E-01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	2.64E-01	4.66E-01	7.30E-01
237	Telephone apparatus manufacturing	0.00E+00	1.41E-02	2.83E-02	4.24E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	4.00E-03	3.05E-02	3.45E-02
240	Audio and video equipment manufacturing	0.00E+00	1.80E-02	2.54E-02	4.34E-02
241	Electron tube manufacturing	0.00E+00	7.28E-03	8.92E-03	1.62E-02
243	Semiconductor and related device manufacturing	0.00E+00	2.90E-01	4.90E-02	3.39E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	4.30E-01	5.95E-02	4.89E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	8.30E-03	1.03E-02	1.86E-02
250	Automatic environmental control manufacturing	0.00E+00	2.42E-02	8.16E-03	3.23E-02
251	Industrial process variable instruments manufacturing	0.00E+00	2.95E-02	2.13E-02	5.08E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	4.01E-01	6.97E-02	4.70E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Output			
ID	Description	Direct	Indirect	Induced	Total
253	Electricity and signal testing instruments manufacturing	0.00E+00	5.82E-03	2.97E-03	8.79E-03
269	Relay and industrial control manufacturing	0.00E+00	4.77E-02	9.65E-03	5.73E-02
273	Wiring device manufacturing	0.00E+00	3.07E+00	1.05E+00	4.11E+00
279	Motor vehicle body manufacturing	0.00E+00	1.81E-01	6.93E-02	2.50E-01
280	Truck trailer manufacturing	0.00E+00	2.12E-01	6.57E-03	2.18E-01
282	Travel trailer and camper manufacturing	0.00E+00	4.79E-01	2.49E+00	2.97E+00
283	Motor vehicle parts manufacturing	0.00E+00	5.80E+00	1.72E+00	7.52E+00
284	Aircraft manufacturing	0.00E+00	3.84E-03	1.21E-02	1.59E-02
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	9.34E-04	3.83E-02	3.92E-02
294	All other transportation equipment manufacturing	0.00E+00	5.15E-02	3.98E-01	4.49E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	8.91E-02	1.42E-01	2.31E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	9.55E-05	6.04E-02	6.05E-02
300	Office Furniture	0.00E+00	9.32E-04	7.32E-01	7.33E-01
304	Blind and shade manufacturing	0.00E+00	5.89E-01	1.09E+00	1.68E+00
312	Doll, toy, and game manufacturing	0.00E+00	3.55E-03	2.68E+00	2.68E+00
313	Office supplies (except paper) manufacturing	0.00E+00	5.98E-02	5.13E-02	1.11E-01
317	All other miscellaneous manufacturing	0.00E+00	1.90E+00	1.92E+00	3.82E+00
319	Wholesale trade businesses	0.00E+00	4.06E+03	1.90E+03	5.95E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	5.37E+01	8.18E+02	8.72E+02
321	Retail Stores - Furniture and home furnishings	0.00E+00	7.80E+00	2.49E+02	2.56E+02
322	Retail Stores - Electronics and appliances	0.00E+00	5.39E+00	1.42E+02	1.47E+02
323	Retail Stores - Building material and garden supply	0.00E+00	3.57E+01	3.82E+02	4.18E+02
324	Retail Stores - Food and beverage	0.00E+00	3.70E+01	9.47E+02	9.84E+02
325	Retail Stores - Health and personal care	0.00E+00	1.34E+01	3.36E+02	3.49E+02
326	Retail Stores - Gasoline stations	0.00E+00	1.62E+01	3.23E+02	3.39E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	6.40E+00	1.79E+02	1.85E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	7.19E+00	1.97E+02	2.05E+02
329	Retail Stores - General merchandise	0.00E+00	3.51E+01	9.05E+02	9.40E+02
330	Retail Stores - Miscellaneous	0.00E+00	1.01E+01	2.71E+02	2.81E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	7.89E+00	2.52E+02	2.60E+02
332	Transport by air	0.00E+00	3.99E-01	7.22E-01	1.12E+00
333	Transport by rail	0.00E+00	2.02E+02	8.18E+00	2.10E+02
334	Transport by water	0.00E+00	3.72E+01	2.63E+00	3.98E+01
335	Transport by truck	0.00E+00	3.33E+03	3.79E+02	3.71E+03
336	Transit and ground passenger transportation	0.00E+00	2.77E+01	8.28E+01	1.10E+02
337	Transport by pipeline	0.00E+00	1.84E+01	4.37E+00	2.27E+01
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.52E+02	9.67E+01	3.48E+02
339	Couriers and messengers	0.00E+00	2.30E+02	1.32E+02	3.62E+02
340	Warehousing and storage	0.00E+00	7.58E+02	1.47E+02	9.05E+02
341	Newspaper publishers	0.00E+00	4.69E+01	7.80E+01	1.25E+02
342	Periodical publishers	0.00E+00	9.04E+00	7.70E+00	1.67E+01
343	Book publishers	0.00E+00	7.13E-02	5.82E-01	6.53E-01
344	Directory, mailing list, and other publishers	0.00E+00	7.89E+00	7.91E+00	1.58E+01
345	Software publishers	0.00E+00	1.72E+00	4.68E-01	2.19E+00
346	Motion picture and video industries	0.00E+00	3.88E+01	9.45E+01	1.33E+02
347	Sound recording industries	0.00E+00	1.51E+00	2.44E+01	2.60E+01
348	Radio and television broadcasting	0.00E+00	2.48E+02	2.12E+02	4.59E+02
349	Cable and other subscription programming	0.00E+00	1.47E+01	1.77E+01	3.24E+01
350	Internet publishing and broadcasting	0.00E+00	2.56E+01	2.73E+01	5.29E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Output			
ID	Description	Direct	Indirect	Induced	Total
351	Telecommunications	0.00E+00	8.06E+02	1.29E+03	2.10E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.64E+01	4.14E+01	5.77E+01
353	Other information services	0.00E+00	1.35E+00	3.97E+00	5.32E+00
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.02E+04	1.98E+03	1.22E+04
355	Nondepository credit intermediation and related activities	0.00E+00	1.04E+03	8.63E+02	1.90E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	7.77E+02	9.02E+02	1.68E+03
357	Insurance carriers	0.00E+00	1.42E+02	4.49E+02	5.91E+02
358	Insurance agencies, brokerages, and related activities	0.00E+00	1.14E+02	1.72E+02	2.86E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	1.24E+01	5.13E+02	5.26E+02
360	Real estate establishments	0.00E+00	1.55E+04	3.16E+03	1.86E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	6.73E+03	6.73E+03
362	Automotive equipment rental and leasing	0.00E+00	8.40E+02	2.35E+02	1.08E+03
363	General and consumer goods rental except video tapes and discs	0.00E+00	5.15E+00	3.57E+01	4.08E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	2.91E+01	2.91E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	8.83E+02	4.99E+01	9.33E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	9.50E+01	2.47E+01	1.20E+02
367	Legal services	0.00E+00	1.97E+02	1.81E+02	3.78E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	3.64E+02	1.07E+02	4.71E+02
369	Architectural, engineering, and related services	0.00E+00	6.21E+02	1.61E+02	7.81E+02
370	Specialized design services	0.00E+00	3.56E+01	1.55E+01	5.11E+01
371	Custom computer programming services	0.00E+00	4.64E+01	1.15E+01	5.80E+01
372	Computer systems design services	0.00E+00	2.91E+01	7.45E+00	3.66E+01
373	Other computer related services, including facilities management	0.00E+00	5.59E+01	1.18E+01	6.77E+01
374	Management, scientific, and technical consulting services	0.00E+00	2.78E+02	2.84E+02	5.62E+02
375	Environmental and other technical consulting services	0.00E+00	3.00E+01	2.98E+01	5.98E+01
376	Scientific research and development services	0.00E+00	6.20E+02	9.60E+01	7.16E+02
377	Advertising and related services	0.00E+00	1.65E+02	1.35E+02	3.00E+02
378	Photographic services	0.00E+00	7.08E+00	2.04E+01	2.75E+01
379	Veterinary services	0.00E+00	3.70E-01	1.05E+02	1.06E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.26E+02	1.94E+01	1.45E+02
381	Management of companies and enterprises	0.00E+00	8.97E+02	2.12E+02	1.11E+03
382	Employment services	0.00E+00	8.92E+01	6.77E+01	1.57E+02
383	Travel arrangement and reservation services	0.00E+00	2.23E+01	1.69E+01	3.93E+01
384	Office administrative services	0.00E+00	4.38E+01	3.53E+01	7.91E+01
386	Business support services	0.00E+00	5.79E+01	5.10E+01	1.09E+02
387	Investigation and security services	0.00E+00	9.17E+01	8.10E+01	1.73E+02
388	Services to buildings and dwellings	0.00E+00	1.04E+03	3.65E+02	1.41E+03
389	Other support services	0.00E+00	5.81E+01	2.24E+01	8.05E+01
390	Waste management and remediation services	0.00E+00	2.44E+02	1.75E+02	4.19E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	2.17E+02	2.17E+02
393	Other private educational services	0.00E+00	3.63E+00	2.26E+02	2.30E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	2.89E-03	2.18E+03	2.18E+03
395	Home health care services	0.00E+00	0.00E+00	1.12E+02	1.12E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Agricultural Production Impact		Output			
ID	Description	Direct	Indirect	Induced	Total
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	2.79E-01	1.02E+03	1.02E+03
397	Private hospitals	0.00E+00	2.78E-03	1.55E+03	1.55E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	9.22E+02	9.22E+02
399	Child day care services	0.00E+00	0.00E+00	2.79E+02	2.79E+02
400	Individual and family services	0.00E+00	0.00E+00	2.06E+02	2.06E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	5.02E-05	1.80E+02	1.80E+02
402	Performing arts companies	0.00E+00	5.12E-01	3.47E+00	3.99E+00
403	Spectator sports companies	0.00E+00	6.87E+01	1.51E+02	2.20E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	2.56E+00	1.29E+01	1.55E+01
405	Independent artists, writers, and performers	0.00E+00	6.33E+01	4.67E+01	1.10E+02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.69E+01	1.69E+01
407	Fitness and recreational sports centers	0.00E+00	1.32E+01	7.34E+01	8.66E+01
408	Bowling centers	0.00E+00	2.76E-02	4.55E+00	4.58E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	2.52E-01	2.09E+02	2.09E+02
410	Other amusement and recreation industries	0.00E+00	1.68E+01	1.11E+02	1.28E+02
411	Hotels and motels, including casino hotels	0.00E+00	7.09E+01	1.48E+01	8.57E+01
412	Other accommodations	0.00E+00	6.99E-02	1.93E-02	8.92E-02
413	Food services and drinking places	0.00E+00	4.35E+02	2.64E+03	3.07E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	4.15E+02	3.97E+02	8.13E+02
415	Car washes	0.00E+00	5.66E+00	3.57E+01	4.14E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	7.00E+01	4.86E+01	1.19E+02
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.68E+02	5.84E+01	2.26E+02
418	Personal and household goods repair and maintenance	0.00E+00	2.72E+01	3.49E+01	6.21E+01
419	Personal care services	0.00E+00	1.30E-04	1.86E+02	1.86E+02
420	Death care services	0.00E+00	0.00E+00	7.06E+00	7.06E+00
421	Dry-cleaning and laundry services	0.00E+00	1.73E+01	6.42E+01	8.15E+01
422	Other personal services	0.00E+00	1.60E+01	2.94E+02	3.10E+02
423	Religious organizations	0.00E+00	0.00E+00	2.32E+02	2.32E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	2.75E-01	3.17E+02	3.17E+02
425	Civic, social, professional, and similar organizations	0.00E+00	2.20E+02	6.23E+02	8.43E+02
426	Private household operations	0.00E+00	0.00E+00	1.45E+02	1.45E+02
427	US Postal Service	0.00E+00	1.88E+02	1.74E+02	3.62E+02
429	Other Federal Government enterprises	0.00E+00	8.29E+01	8.31E+01	1.66E+02
430	State and local government passenger transit	0.00E+00	1.79E+01	5.36E+01	7.15E+01
431	State and local government electric utilities	0.00E+00	6.07E+02	1.03E+02	7.09E+02
432	Other state and local government enterprises	0.00E+00	3.54E+03	9.74E+02	4.52E+03

Year 1 Construction		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
0	Total	7.96E+00	1.90E+00	2.12E+00	1.20E+01
1	Oilseed farming	0.00E+00	2.19E-05	4.40E-05	6.59E-05
2	Grain farming	0.00E+00	3.92E-04	1.14E-03	1.53E-03
3	Vegetable and melon farming	0.00E+00	2.16E-05	9.81E-04	1.00E-03
4	Fruit farming	0.00E+00	3.03E-05	1.21E-03	1.24E-03
5	Tree nut farming	0.00E+00	1.29E-04	6.73E-04	8.02E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
6	Greenhouse, nursery, and floriculture production	0.00E+00	2.49E-06	2.71E-05	2.96E-05
9	Sugarcane and sugar beet farming	0.00E+00	7.13E-06	5.04E-06	1.22E-05
10	All other crop farming	0.00E+00	3.92E-04	1.71E-04	5.63E-04
11	Cattle ranching and farming	0.00E+00	8.59E-06	2.74E-05	3.60E-05
12	Dairy cattle and milk production	0.00E+00	4.91E-05	9.67E-05	1.46E-04
13	Poultry and egg production	0.00E+00	1.46E-07	9.70E-06	9.84E-06
14	Animal production, except cattle and poultry and eggs	0.00E+00	4.23E-05	4.74E-04	5.16E-04
15	Forestry, forest products, and timber tract production	0.00E+00	6.38E-06	1.02E-05	1.65E-05
18	Commercial hunting and trapping	0.00E+00	0.00E+00	2.25E-05	2.25E-05
19	Support activities for agriculture and forestry	0.00E+00	5.93E-04	3.56E-03	4.15E-03
20	Extraction of oil and natural gas	0.00E+00	5.90E-04	7.03E-04	1.29E-03
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	2.19E-04	1.75E-04	3.94E-04
29	Support activities for oil and gas operations	0.00E+00	3.64E-05	3.91E-05	7.55E-05
31	Electric power generation, transmission, and distribution	0.00E+00	2.16E-03	4.98E-03	7.14E-03
32	Natural gas distribution	0.00E+00	3.18E-05	8.30E-05	1.15E-04
33	Water, sewage and other treatment and delivery systems	0.00E+00	5.09E-06	3.41E-05	3.92E-05
39	Maintenance and repair construction of nonresidential structures	0.00E+00	2.21E-02	1.20E-02	3.41E-02
40	Maintenance and repair construction of residential structures	0.00E+00	3.76E-04	5.73E-03	6.11E-03
41	Dog and cat food manufacturing	0.00E+00	5.41E-08	4.80E-06	4.85E-06
42	Other animal food manufacturing	0.00E+00	1.35E-05	1.21E-04	1.34E-04
43	Flour milling and malt manufacturing	0.00E+00	1.62E-05	2.75E-04	2.91E-04
52	Nonchocolate confectionery manufacturing	0.00E+00	1.23E-06	2.34E-05	2.46E-05
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	3.58E-05	4.62E-04	4.98E-04
62	Bread and bakery product manufacturing	0.00E+00	9.98E-06	1.34E-04	1.44E-04
64	Tortilla manufacturing	0.00E+00	2.53E-07	1.21E-04	1.21E-04
69	All other food manufacturing	0.00E+00	1.46E-05	1.24E-04	1.39E-04
70	Soft drink and ice manufacturing	0.00E+00	1.42E-04	3.13E-03	3.27E-03
71	Breweries	0.00E+00	8.30E-06	2.32E-04	2.40E-04
72	Wineries	0.00E+00	1.93E-05	3.24E-04	3.43E-04
76	Broadwoven fabric mills	0.00E+00	7.48E-07	1.11E-05	1.18E-05
80	Textile and fabric finishing mills	0.00E+00	1.13E-05	5.89E-05	7.02E-05
84	Textile bag and canvas mills	0.00E+00	1.79E-07	9.77E-07	1.16E-06
85	All other textile product mills	0.00E+00	1.10E-05	2.40E-05	3.50E-05
87	Cut and sew apparel contractors	0.00E+00	9.12E-05	1.99E-04	2.91E-04
91	Apparel accessories and other apparel manufacturing	0.00E+00	7.81E-08	6.10E-06	6.18E-06
93	Footwear manufacturing	0.00E+00	4.78E-17	2.30E-05	2.30E-05
95	Sawmills and wood preservation	0.00E+00	2.84E-04	2.73E-04	5.57E-04
97	Engineered wood member and truss manufacturing	0.00E+00	5.24E-06	8.64E-06	1.39E-05
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.28E-05	1.32E-05	2.60E-05
100	Wood container and pallet manufacturing	0.00E+00	1.24E-04	4.46E-04	5.70E-04
101	Manufactured home (mobile home) manufacturing	0.00E+00	4.68E-06	3.50E-06	8.18E-06
103	All other miscellaneous wood product manufacturing	0.00E+00	6.28E-06	1.76E-05	2.39E-05
107	Paperboard container manufacturing	0.00E+00	1.43E-03	6.28E-04	2.06E-03
113	Printing	0.00E+00	7.04E-03	3.41E-03	1.05E-02
114	Support activities for printing	0.00E+00	1.39E-05	1.33E-06	1.53E-05
130	Fertilizer manufacturing	0.00E+00	2.82E-05	8.48E-05	1.13E-04
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.56E-05	2.25E-04	2.41E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
133	Pharmaceutical preparation manufacturing	0.00E+00	4.19E-07	3.69E-05	3.73E-05
134	In-vitro diagnostic substance manufacturing	0.00E+00	3.71E-07	1.86E-06	2.23E-06
135	Biological product (except diagnostic) manufacturing	0.00E+00	2.76E-05	3.55E-05	6.30E-05
140	Printing ink manufacturing	0.00E+00	2.79E-05	8.38E-06	3.63E-05
141	All other chemical product and preparation manufacturing	0.00E+00	3.99E-06	1.45E-06	5.44E-06
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.33E-05	1.60E-05	2.93E-05
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.26E-04	2.12E-05	1.48E-04
149	Other plastics product manufacturing	0.00E+00	9.31E-05	6.97E-05	1.63E-04
150	Tire manufacturing	0.00E+00	1.00E-05	3.76E-05	4.77E-05
162	Concrete pipe, brick, and block manufacturing	0.00E+00	6.98E-04	1.72E-04	8.70E-04
163	Other concrete product manufacturing	0.00E+00	1.04E-03	3.88E-04	1.43E-03
167	Ground or treated mineral and earth manufacturing	0.00E+00	7.88E-06	1.18E-05	1.97E-05
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	9.20E-04	2.56E-05	9.46E-04
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.27E-04	3.05E-05	1.58E-04
187	Ornamental and architectural metal products manufacturing	0.00E+00	4.07E-04	9.36E-05	5.01E-04
194	Spring and wire product manufacturing	0.00E+00	8.71E-05	1.59E-05	1.03E-04
195	Machine shops	0.00E+00	1.55E-05	4.68E-06	2.02E-05
197	Coating, engraving, heat treating and allied activities	0.00E+00	1.18E-06	8.81E-07	2.06E-06
198	Valve and fittings other than plumbing manufacturing	0.00E+00	4.43E-05	1.08E-05	5.51E-05
203	Farm machinery and equipment manufacturing	0.00E+00	1.85E-06	2.34E-06	4.19E-06
205	Construction machinery manufacturing	0.00E+00	7.13E-07	3.31E-08	7.46E-07
206	Mining and oil and gas field machinery manufacturing	0.00E+00	2.72E-06	2.69E-07	2.99E-06
207	Other industrial machinery manufacturing	0.00E+00	4.26E-07	7.49E-07	1.17E-06
208	Plastics and rubber industry machinery manufacturing	0.00E+00	2.70E-07	7.87E-08	3.49E-07
211	Optical instrument and lens manufacturing	0.00E+00	2.32E-07	1.12E-07	3.43E-07
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	5.25E-07	8.01E-08	6.05E-07
226	Pump and pumping equipment manufacturing	0.00E+00	2.93E-07	2.71E-07	5.65E-07
228	Material handling equipment manufacturing	0.00E+00	8.97E-07	3.25E-07	1.22E-06
233	Fluid power process machinery manufacturing	0.00E+00	1.47E-06	5.85E-07	2.06E-06
234	Electronic computer manufacturing	0.00E+00	4.26E-07	4.99E-07	9.25E-07
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	1.71E-05	8.66E-06	2.58E-05
237	Telephone apparatus manufacturing	0.00E+00	3.39E-07	2.80E-07	6.19E-07
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	1.90E-07	4.55E-07	6.45E-07
240	Audio and video equipment manufacturing	0.00E+00	1.51E-07	4.25E-07	5.76E-07
241	Electron tube manufacturing	0.00E+00	5.25E-07	2.25E-07	7.50E-07
243	Semiconductor and related device manufacturing	0.00E+00	9.96E-07	5.12E-07	1.51E-06
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	3.76E-06	1.69E-06	5.45E-06
249	Search, detection, and navigation instruments manufacturing	0.00E+00	6.49E-08	1.80E-07	2.45E-07
250	Automatic environmental control manufacturing	0.00E+00	5.69E-07	2.15E-07	7.84E-07
251	Industrial process variable instruments manufacturing	0.00E+00	1.24E-06	5.58E-07	1.80E-06
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.17E-06	1.18E-06	2.35E-06
253	Electricity and signal testing instruments manufacturing	0.00E+00	5.79E-08	6.18E-08	1.20E-07
269	Relay and industrial control manufacturing	0.00E+00	5.74E-07	2.23E-07	7.98E-07
273	Wiring device manufacturing	0.00E+00	2.24E-05	2.40E-05	4.64E-05

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
279	Motor vehicle body manufacturing	0.00E+00	9.29E-07	1.30E-06	2.23E-06
280	Truck trailer manufacturing	0.00E+00	2.23E-07	1.86E-07	4.09E-07
282	Travel trailer and camper manufacturing	0.00E+00	1.14E-05	8.08E-05	9.21E-05
283	Motor vehicle parts manufacturing	0.00E+00	3.22E-05	3.62E-05	6.84E-05
284	Aircraft manufacturing	0.00E+00	4.44E-08	1.38E-07	1.82E-07
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	2.02E-08	4.87E-07	5.07E-07
294	All other transportation equipment manufacturing	0.00E+00	1.00E-07	5.56E-06	5.66E-06
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	1.62E-06	7.10E-06	8.72E-06
297	Nonupholstered wood household furniture manufacturing	0.00E+00	1.77E-09	3.00E-06	3.01E-06
300	Office Furniture	0.00E+00	2.73E-08	2.06E-05	2.06E-05
304	Blind and shade manufacturing	0.00E+00	4.74E-05	5.60E-05	1.03E-04
312	Doll, toy, and game manufacturing	0.00E+00	2.54E-07	3.61E-05	3.63E-05
313	Office supplies (except paper) manufacturing	0.00E+00	2.38E-06	1.50E-06	3.88E-06
317	All other miscellaneous manufacturing	0.00E+00	6.17E-05	5.29E-05	1.15E-04
319	Wholesale trade businesses	0.00E+00	2.35E-02	9.18E-02	1.15E-01
320	Retail Stores - Motor vehicle and parts	0.00E+00	9.28E-04	4.84E-02	4.94E-02
321	Retail Stores - Furniture and home furnishings	0.00E+00	1.39E-04	1.52E-02	1.53E-02
322	Retail Stores - Electronics and appliances	0.00E+00	9.92E-05	8.93E-03	9.03E-03
323	Retail Stores - Building material and garden supply	0.00E+00	7.19E-04	2.63E-02	2.70E-02
324	Retail Stores - Food and beverage	0.00E+00	8.71E-04	7.64E-02	7.73E-02
325	Retail Stores - Health and personal care	0.00E+00	2.88E-04	2.48E-02	2.51E-02
326	Retail Stores - Gasoline stations	0.00E+00	1.40E-04	9.57E-03	9.71E-03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	1.89E-04	1.81E-02	1.83E-02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	2.35E-04	2.21E-02	2.23E-02
329	Retail Stores - General merchandise	0.00E+00	1.03E-03	9.07E-02	9.17E-02
330	Retail Stores - Miscellaneous	0.00E+00	3.12E-04	2.86E-02	2.89E-02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	2.50E-04	2.73E-02	2.75E-02
332	Transport by air	0.00E+00	2.86E-05	2.53E-05	5.38E-05
333	Transport by rail	0.00E+00	1.90E-04	1.77E-04	3.67E-04
334	Transport by water	0.00E+00	1.19E-05	3.57E-05	4.76E-05
335	Transport by truck	0.00E+00	9.70E-03	1.72E-02	2.69E-02
336	Transit and ground passenger transportation	0.00E+00	1.24E-02	7.41E-03	1.98E-02
337	Transport by pipeline	0.00E+00	1.58E-05	5.67E-05	7.26E-05
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	9.02E-03	5.29E-03	1.43E-02
339	Couriers and messengers	0.00E+00	1.93E-02	7.56E-03	2.68E-02
340	Warehousing and storage	0.00E+00	8.45E-03	9.24E-03	1.77E-02
341	Newspaper publishers	0.00E+00	3.58E-03	3.95E-03	7.53E-03
342	Periodical publishers	0.00E+00	3.73E-04	1.67E-04	5.40E-04
343	Book publishers	0.00E+00	2.75E-06	1.12E-05	1.40E-05
344	Directory, mailing list, and other publishers	0.00E+00	2.80E-04	1.37E-04	4.17E-04
345	Software publishers	0.00E+00	6.11E-05	6.40E-06	6.75E-05
346	Motion picture and video industries	0.00E+00	2.02E-03	2.28E-03	4.30E-03
347	Sound recording industries	0.00E+00	1.39E-05	1.26E-04	1.40E-04
348	Radio and television broadcasting	0.00E+00	1.17E-02	6.69E-03	1.83E-02
349	Cable and other subscription programming	0.00E+00	6.04E-04	3.74E-04	9.78E-04
350	Internet publishing and broadcasting	0.00E+00	3.39E-03	7.87E-04	4.17E-03
351	Telecommunications	0.00E+00	3.36E-02	1.81E-02	5.18E-02
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	3.74E-04	8.31E-04	1.21E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
353	Other information services	0.00E+00	5.33E-05	3.57E-05	8.90E-05
354	Monetary authorities and depository credit intermediation activities	0.00E+00	3.86E-02	3.23E-02	7.09E-02
355	Nondepository credit intermediation and related activities	0.00E+00	2.33E-02	4.29E-02	6.62E-02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	2.42E-02	6.20E-02	8.62E-02
357	Insurance carriers	0.00E+00	1.18E-02	8.94E-03	2.07E-02
358	Insurance agencies, brokerages, and related activities	0.00E+00	9.18E-03	7.87E-03	1.71E-02
359	Funds, trusts, and other financial vehicles	0.00E+00	3.11E-04	1.07E-02	1.10E-02
360	Real estate establishments	0.00E+00	1.17E-01	1.07E-01	2.24E-01
362	Automotive equipment rental and leasing	0.00E+00	8.99E-03	6.23E-03	1.52E-02
363	General and consumer goods rental except video tapes and discs	0.00E+00	6.70E-04	2.49E-03	3.16E-03
364	Video tape and disc rental	0.00E+00	0.00E+00	2.27E-03	2.27E-03
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	4.75E-03	1.07E-03	5.82E-03
366	Lessors of nonfinancial intangible assets	0.00E+00	4.00E-04	7.31E-05	4.73E-04
367	Legal services	0.00E+00	1.57E-02	9.89E-03	2.56E-02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	4.42E-02	8.53E-03	5.28E-02
369	Architectural, engineering, and related services	3.19E+00	2.80E-01	1.01E-02	3.48E+00
370	Specialized design services	0.00E+00	1.71E-02	9.46E-04	1.81E-02
371	Custom computer programming services	0.00E+00	6.73E-03	7.34E-04	7.46E-03
372	Computer systems design services	0.00E+00	9.56E-03	1.17E-03	1.07E-02
373	Other computer related services, including facilities management	0.00E+00	3.49E-03	2.89E-04	3.78E-03
374	Management, scientific, and technical consulting services	0.00E+00	1.75E-01	1.87E-02	1.94E-01
375	Environmental and other technical consulting services	4.77E+00	3.31E-02	2.24E-03	4.80E+00
376	Scientific research and development services	0.00E+00	2.11E-02	4.53E-03	2.56E-02
377	Advertising and related services	0.00E+00	1.43E-02	7.87E-03	2.22E-02
378	Photographic services	0.00E+00	1.37E-02	1.32E-03	1.50E-02
379	Veterinary services	0.00E+00	3.39E-05	1.07E-02	1.07E-02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	7.23E-03	5.71E-04	7.80E-03
381	Management of companies and enterprises	0.00E+00	2.69E-02	7.79E-03	3.47E-02
382	Employment services	0.00E+00	1.40E-01	1.24E-02	1.52E-01
383	Travel arrangement and reservation services	0.00E+00	3.36E-03	7.94E-04	4.15E-03
384	Office administrative services	0.00E+00	2.39E-02	2.10E-03	2.60E-02
386	Business support services	0.00E+00	2.92E-02	6.19E-03	3.54E-02
387	Investigation and security services	0.00E+00	6.30E-02	1.58E-02	7.88E-02
388	Services to buildings and dwellings	0.00E+00	1.19E-01	3.81E-02	1.57E-01
389	Other support services	0.00E+00	1.92E-02	1.45E-03	2.06E-02
390	Waste management and remediation services	0.00E+00	4.87E-03	5.59E-03	1.05E-02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	3.76E-02	3.76E-02
393	Other private educational services	0.00E+00	5.35E-04	3.75E-02	3.80E-02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	3.56E-07	1.02E-01	1.02E-01
395	Home health care services	0.00E+00	0.00E+00	1.09E-02	1.09E-02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	3.01E-05	4.18E-02	4.19E-02
397	Private hospitals	0.00E+00	2.98E-07	6.32E-02	6.32E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
398	Nursing and residential care facilities	0.00E+00	0.00E+00	9.85E-02	9.85E-02
399	Child day care services	0.00E+00	0.00E+00	4.00E-02	4.00E-02
400	Individual and family services	0.00E+00	0.00E+00	2.75E-02	2.75E-02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.93E-09	2.37E-02	2.37E-02
402	Performing arts companies	0.00E+00	1.01E-03	9.83E-04	1.99E-03
403	Spectator sports companies	0.00E+00	2.76E-02	2.75E-02	5.50E-02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.44E-03	1.64E-03	3.08E-03
405	Independent artists, writers, and performers	0.00E+00	6.41E-03	1.43E-03	7.84E-03
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	9.71E-04	9.71E-04
407	Fitness and recreational sports centers	0.00E+00	1.03E-02	1.26E-02	2.29E-02
408	Bowling centers	0.00E+00	7.40E-06	5.27E-04	5.35E-04
409	Amusement parks, arcades, and gambling industries	0.00E+00	2.22E-05	1.30E-02	1.31E-02
410	Other amusement and recreation industries	0.00E+00	4.90E-03	9.48E-03	1.44E-02
411	Hotels and motels, including casino hotels	0.00E+00	1.03E-03	9.35E-04	1.97E-03
412	Other accommodations	0.00E+00	1.36E-06	1.62E-06	2.98E-06
413	Food services and drinking places	0.00E+00	2.07E-01	2.48E-01	4.55E-01
414	Automotive repair and maintenance, except car washes	0.00E+00	1.96E-02	2.40E-02	4.36E-02
415	Car washes	0.00E+00	1.56E-03	5.84E-03	7.40E-03
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.54E-02	1.78E-03	1.72E-02
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.65E-02	3.63E-03	2.01E-02
418	Personal and household goods repair and maintenance	0.00E+00	1.92E-03	1.30E-03	3.22E-03
419	Personal care services	0.00E+00	3.61E-09	1.79E-02	1.79E-02
420	Death care services	0.00E+00	0.00E+00	7.85E-04	7.85E-04
421	Dry-cleaning and laundry services	0.00E+00	2.28E-03	5.24E-03	7.52E-03
422	Other personal services	0.00E+00	3.09E-02	1.17E-02	4.26E-02
423	Religious organizations	0.00E+00	0.00E+00	9.89E-03	9.89E-03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	8.92E-06	1.55E-02	1.55E-02
425	Civic, social, professional, and similar organizations	0.00E+00	1.93E-02	3.41E-02	5.34E-02
426	Private household operations	0.00E+00	0.00E+00	8.21E-02	8.21E-02
427	US Postal Service	0.00E+00	2.14E-02	9.83E-03	3.12E-02
429	Other Federal Government enterprises	0.00E+00	7.28E-04	1.32E-03	2.05E-03
430	State and local government passenger transit	0.00E+00	1.06E-02	6.38E-03	1.70E-02
431	State and local government electric utilities	0.00E+00	7.18E-04	1.64E-03	2.35E-03
432	Other state and local government enterprises	0.00E+00	7.11E-03	2.15E-02	2.86E-02

Year 1 Construction		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
0	Total	4.60E+05	8.64E+04	9.44E+04	6.41E+05
1	Oilseed farming	0.00E+00	4.13E-01	8.29E-01	1.24E+00
2	Grain farming	0.00E+00	4.19E+00	1.22E+01	1.64E+01
3	Vegetable and melon farming	0.00E+00	4.54E+00	2.06E+02	2.11E+02
4	Fruit farming	0.00E+00	5.40E+00	2.16E+02	2.21E+02
5	Tree nut farming	0.00E+00	9.62E+00	5.01E+01	5.97E+01
6	Greenhouse, nursery, and floriculture production	0.00E+00	6.93E-01	7.54E+00	8.24E+00
9	Sugarcane and sugar beet farming	0.00E+00	7.76E-02	5.48E-02	1.32E-01
10	All other crop farming	0.00E+00	3.78E+01	1.65E+01	5.44E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
11	Cattle ranching and farming	0.00E+00	1.85E-01	5.91E-01	7.76E-01
12	Dairy cattle and milk production	0.00E+00	8.52E-01	1.68E+00	2.53E+00
13	Poultry and egg production	0.00E+00	3.07E-02	2.04E+00	2.07E+00
14	Animal production, except cattle and poultry and eggs	0.00E+00	8.86E-01	9.93E+00	1.08E+01
15	Forestry, forest products, and timber tract production	0.00E+00	4.59E-01	7.31E-01	1.19E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	5.49E-01	5.49E-01
19	Support activities for agriculture and forestry	0.00E+00	2.50E+01	1.50E+02	1.75E+02
20	Extraction of oil and natural gas	0.00E+00	3.37E+01	4.02E+01	7.39E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.48E+01	1.19E+01	2.67E+01
29	Support activities for oil and gas operations	0.00E+00	2.73E+00	2.94E+00	5.68E+00
31	Electric power generation, transmission, and distribution	0.00E+00	4.15E+02	9.57E+02	1.37E+03
32	Natural gas distribution	0.00E+00	5.03E+00	1.31E+01	1.82E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	3.89E-01	2.61E+00	3.00E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	1.70E+03	9.22E+02	2.62E+03
40	Maintenance and repair construction of residential structures	0.00E+00	2.24E+01	3.41E+02	3.64E+02
41	Dog and cat food manufacturing	0.00E+00	6.26E-03	5.55E-01	5.61E-01
42	Other animal food manufacturing	0.00E+00	1.12E+00	9.95E+00	1.11E+01
43	Flour milling and malt manufacturing	0.00E+00	1.14E+00	1.93E+01	2.05E+01
52	Nonchocolate confectionery manufacturing	0.00E+00	8.18E-02	1.55E+00	1.63E+00
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	2.26E+00	2.91E+01	3.14E+01
62	Bread and bakery product manufacturing	0.00E+00	1.25E-01	1.67E+00	1.80E+00
64	Tortilla manufacturing	0.00E+00	3.07E-03	1.47E+00	1.47E+00
69	All other food manufacturing	0.00E+00	8.36E-01	7.12E+00	7.95E+00
70	Soft drink and ice manufacturing	0.00E+00	1.25E+01	2.75E+02	2.88E+02
71	Breweries	0.00E+00	9.88E-01	2.76E+01	2.86E+01
72	Wineries	0.00E+00	1.73E+00	2.89E+01	3.06E+01
76	Broadwoven fabric mills	0.00E+00	2.85E-02	4.21E-01	4.50E-01
80	Textile and fabric finishing mills	0.00E+00	4.21E-01	2.18E+00	2.60E+00
84	Textile bag and canvas mills	0.00E+00	8.80E-03	4.82E-02	5.70E-02
85	All other textile product mills	0.00E+00	4.21E-01	9.16E-01	1.34E+00
87	Cut and sew apparel contractors	0.00E+00	2.23E+00	4.87E+00	7.10E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.83E-03	1.43E-01	1.45E-01
93	Footwear manufacturing	0.00E+00	2.17E-12	1.04E+00	1.04E+00
95	Sawmills and wood preservation	0.00E+00	1.65E+01	1.58E+01	3.23E+01
97	Engineered wood member and truss manufacturing	0.00E+00	2.50E-01	4.12E-01	6.62E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	5.89E-01	6.07E-01	1.20E+00
100	Wood container and pallet manufacturing	0.00E+00	6.72E+00	2.42E+01	3.09E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	2.09E-01	1.56E-01	3.66E-01
103	All other miscellaneous wood product manufacturing	0.00E+00	2.70E-01	7.57E-01	1.03E+00
107	Paperboard container manufacturing	0.00E+00	9.28E+01	4.08E+01	1.34E+02
113	Printing	0.00E+00	3.72E+02	1.80E+02	5.52E+02
114	Support activities for printing	0.00E+00	7.26E-01	6.90E-02	7.95E-01
130	Fertilizer manufacturing	0.00E+00	3.24E+00	9.74E+00	1.30E+01
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	2.03E+00	2.93E+01	3.13E+01
133	Pharmaceutical preparation manufacturing	0.00E+00	2.62E-02	2.30E+00	2.33E+00
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.79E-02	8.96E-02	1.07E-01
135	Biological product (except diagnostic) manufacturing	0.00E+00	3.10E+00	3.99E+00	7.08E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
140	Printing ink manufacturing	0.00E+00	3.50E+00	1.05E+00	4.55E+00
141	All other chemical product and preparation manufacturing	0.00E+00	5.15E-01	1.87E-01	7.03E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.09E+00	1.31E+00	2.39E+00
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.02E+01	1.71E+00	1.19E+01
149	Other plastics product manufacturing	0.00E+00	5.16E+00	3.86E+00	9.02E+00
150	Tire manufacturing	0.00E+00	6.33E-01	2.38E+00	3.02E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	6.49E+01	1.59E+01	8.08E+01
163	Other concrete product manufacturing	0.00E+00	9.04E+01	3.36E+01	1.24E+02
167	Ground or treated mineral and earth manufacturing	0.00E+00	8.59E-01	1.29E+00	2.15E+00
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	7.69E+01	2.14E+00	7.90E+01
186	Plate work and fabricated structural product manufacturing	0.00E+00	9.55E+00	2.30E+00	1.18E+01
187	Ornamental and architectural metal products manufacturing	0.00E+00	2.17E+01	5.00E+00	2.67E+01
194	Spring and wire product manufacturing	0.00E+00	4.93E+00	9.00E-01	5.83E+00
195	Machine shops	0.00E+00	9.84E-01	2.97E-01	1.28E+00
197	Coating, engraving, heat treating and allied activities	0.00E+00	6.33E-02	4.71E-02	1.10E-01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	3.43E+00	8.38E-01	4.26E+00
203	Farm machinery and equipment manufacturing	0.00E+00	1.09E-01	1.37E-01	2.46E-01
205	Construction machinery manufacturing	0.00E+00	5.48E-02	2.55E-03	5.74E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	3.37E-01	3.33E-02	3.70E-01
207	Other industrial machinery manufacturing	0.00E+00	3.50E-02	6.16E-02	9.66E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	8.80E-03	2.56E-03	1.14E-02
211	Optical instrument and lens manufacturing	0.00E+00	1.05E-02	5.05E-03	1.55E-02
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	1.59E-02	2.43E-03	1.84E-02
226	Pump and pumping equipment manufacturing	0.00E+00	1.72E-02	1.59E-02	3.31E-02
228	Material handling equipment manufacturing	0.00E+00	4.12E-02	1.49E-02	5.62E-02
233	Fluid power process machinery manufacturing	0.00E+00	9.40E-02	3.73E-02	1.31E-01
234	Electronic computer manufacturing	0.00E+00	1.17E-01	1.37E-01	2.53E-01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	2.81E+00	1.42E+00	4.23E+00
237	Telephone apparatus manufacturing	0.00E+00	4.37E-02	3.61E-02	7.98E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	1.41E-02	3.39E-02	4.80E-02
240	Audio and video equipment manufacturing	0.00E+00	1.17E-02	3.29E-02	4.46E-02
241	Electron tube manufacturing	0.00E+00	5.50E-02	2.36E-02	7.86E-02
243	Semiconductor and related device manufacturing	0.00E+00	1.47E-01	7.54E-02	2.22E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	2.02E-01	9.09E-02	2.93E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	5.98E-03	1.66E-02	2.26E-02
250	Automatic environmental control manufacturing	0.00E+00	3.45E-02	1.31E-02	4.76E-02
251	Industrial process variable instruments manufacturing	0.00E+00	8.00E-02	3.60E-02	1.16E-01
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	7.06E-02	7.08E-02	1.41E-01
253	Electricity and signal testing instruments manufacturing	0.00E+00	6.27E-03	6.70E-03	1.30E-02
269	Relay and industrial control manufacturing	0.00E+00	3.76E-02	1.46E-02	5.22E-02
273	Wiring device manufacturing	0.00E+00	1.65E+00	1.77E+00	3.42E+00
279	Motor vehicle body manufacturing	0.00E+00	9.30E-02	1.30E-01	2.23E-01
280	Truck trailer manufacturing	0.00E+00	1.26E-02	1.05E-02	2.31E-02
282	Travel trailer and camper manufacturing	0.00E+00	4.58E-01	3.26E+00	3.71E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
283	Motor vehicle parts manufacturing	0.00E+00	9.96E-01	1.12E+00	2.11E+00
284	Aircraft manufacturing	0.00E+00	2.92E-03	9.07E-03	1.20E-02
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	5.68E-04	1.37E-02	1.43E-02
294	All other transportation equipment manufacturing	0.00E+00	5.68E-03	3.14E-01	3.20E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	9.27E-02	4.06E-01	4.99E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	9.14E-05	1.55E-01	1.55E-01
300	Office Furniture	0.00E+00	1.19E-03	8.99E-01	9.00E-01
304	Blind and shade manufacturing	0.00E+00	1.79E+00	2.11E+00	3.89E+00
312	Doll, toy, and game manufacturing	0.00E+00	5.46E-02	7.74E+00	7.79E+00
313	Office supplies (except paper) manufacturing	0.00E+00	1.99E-01	1.26E-01	3.25E-01
317	All other miscellaneous manufacturing	0.00E+00	5.66E+00	4.85E+00	1.05E+01
319	Wholesale trade businesses	0.00E+00	1.27E+03	4.96E+03	6.22E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	5.95E+01	3.11E+03	3.17E+03
321	Retail Stores - Furniture and home furnishings	0.00E+00	6.52E+00	7.12E+02	7.18E+02
322	Retail Stores - Electronics and appliances	0.00E+00	3.07E+00	2.76E+02	2.79E+02
323	Retail Stores - Building material and garden supply	0.00E+00	3.57E+01	1.31E+03	1.34E+03
324	Retail Stores - Food and beverage	0.00E+00	4.21E+01	3.70E+03	3.74E+03
325	Retail Stores - Health and personal care	0.00E+00	1.38E+01	1.19E+03	1.20E+03
326	Retail Stores - Gasoline stations	0.00E+00	1.83E+01	1.25E+03	1.27E+03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	4.86E+00	4.65E+02	4.70E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	5.82E+00	5.47E+02	5.53E+02
329	Retail Stores - General merchandise	0.00E+00	3.49E+01	3.08E+03	3.12E+03
330	Retail Stores - Miscellaneous	0.00E+00	8.18E+00	7.49E+02	7.57E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	3.42E+00	3.73E+02	3.77E+02
332	Transport by air	0.00E+00	4.11E-02	3.64E-02	7.74E-02
333	Transport by rail	0.00E+00	2.01E+01	1.87E+01	3.89E+01
334	Transport by water	0.00E+00	1.12E+00	3.35E+00	4.47E+00
335	Transport by truck	0.00E+00	7.86E+02	1.39E+03	2.18E+03
336	Transit and ground passenger transportation	0.00E+00	6.21E+02	3.72E+02	9.94E+02
337	Transport by pipeline	0.00E+00	1.81E+00	6.47E+00	8.28E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	6.20E+02	3.63E+02	9.83E+02
339	Couriers and messengers	0.00E+00	1.21E+03	4.76E+02	1.69E+03
340	Warehousing and storage	0.00E+00	4.70E+02	5.14E+02	9.84E+02
341	Newspaper publishers	0.00E+00	1.77E+02	1.96E+02	3.73E+02
342	Periodical publishers	0.00E+00	2.63E+01	1.18E+01	3.81E+01
343	Book publishers	0.00E+00	1.66E-01	6.76E-01	8.42E-01
344	Directory, mailing list, and other publishers	0.00E+00	1.92E+01	9.37E+00	2.86E+01
345	Software publishers	0.00E+00	5.80E+00	6.08E-01	6.41E+00
346	Motion picture and video industries	0.00E+00	4.07E+01	4.60E+01	8.67E+01
347	Sound recording industries	0.00E+00	8.77E-01	7.94E+00	8.82E+00
348	Radio and television broadcasting	0.00E+00	7.87E+02	4.52E+02	1.24E+03
349	Cable and other subscription programming	0.00E+00	1.75E+01	1.08E+01	2.83E+01
350	Internet publishing and broadcasting	0.00E+00	3.43E+02	7.97E+01	4.23E+02
351	Telecommunications	0.00E+00	2.43E+03	1.31E+03	3.74E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.18E+01	2.63E+01	3.81E+01
353	Other information services	0.00E+00	2.18E+00	1.46E+00	3.65E+00
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.84E+03	1.54E+03	3.38E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
355	Nondepository credit intermediation and related activities	0.00E+00	1.53E+03	2.82E+03	4.35E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	1.58E+02	4.05E+02	5.63E+02
357	Insurance carriers	0.00E+00	8.54E+02	6.49E+02	1.50E+03
358	Insurance agencies, brokerages, and related activities	0.00E+00	7.97E+02	6.84E+02	1.48E+03
359	Funds, trusts, and other financial vehicles	0.00E+00	1.14E+01	3.93E+02	4.04E+02
360	Real estate establishments	0.00E+00	2.61E+03	2.41E+03	5.02E+03
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	Automotive equipment rental and leasing	0.00E+00	5.29E+02	3.67E+02	8.96E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	2.68E+01	9.95E+01	1.26E+02
364	Video tape and disc rental	0.00E+00	0.00E+00	3.70E+01	3.70E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	3.78E+02	8.48E+01	4.63E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	2.30E+01	4.20E+00	2.72E+01
367	Legal services	0.00E+00	5.87E+02	3.70E+02	9.57E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.57E+03	3.03E+02	1.88E+03
369	Architectural, engineering, and related services	1.85E+05	1.63E+04	5.87E+02	2.02E+05
370	Specialized design services	0.00E+00	4.61E+02	2.55E+01	4.87E+02
371	Custom computer programming services	0.00E+00	4.84E+02	5.28E+01	5.37E+02
372	Computer systems design services	0.00E+00	5.42E+02	6.63E+01	6.08E+02
373	Other computer related services, including facilities management	0.00E+00	1.95E+02	1.61E+01	2.11E+02
374	Management, scientific, and technical consulting services	0.00E+00	9.86E+03	1.05E+03	1.09E+04
375	Environmental and other technical consulting services	2.75E+05	1.91E+03	1.29E+02	2.77E+05
376	Scientific research and development services	0.00E+00	1.37E+03	2.93E+02	1.66E+03
377	Advertising and related services	0.00E+00	4.49E+02	2.47E+02	6.96E+02
378	Photographic services	0.00E+00	4.34E+02	4.17E+01	4.76E+02
379	Veterinary services	0.00E+00	1.43E+00	4.50E+02	4.51E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	3.62E+02	2.86E+01	3.90E+02
381	Management of companies and enterprises	0.00E+00	2.62E+03	7.58E+02	3.38E+03
382	Employment services	0.00E+00	3.81E+03	3.39E+02	4.15E+03
383	Travel arrangement and reservation services	0.00E+00	1.21E+02	2.86E+01	1.50E+02
384	Office administrative services	0.00E+00	1.76E+03	1.55E+02	1.92E+03
386	Business support services	0.00E+00	9.72E+02	2.06E+02	1.18E+03
387	Investigation and security services	0.00E+00	1.31E+03	3.28E+02	1.63E+03
388	Services to buildings and dwellings	0.00E+00	2.87E+03	9.16E+02	3.79E+03
389	Other support services	0.00E+00	5.78E+02	4.38E+01	6.21E+02
390	Waste management and remediation services	0.00E+00	3.61E+02	4.15E+02	7.76E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	8.53E+02	8.53E+02
393	Other private educational services	0.00E+00	8.17E+00	5.72E+02	5.81E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	3.45E-02	9.92E+03	9.92E+03
395	Home health care services	0.00E+00	0.00E+00	5.63E+02	5.63E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	2.15E+00	2.99E+03	3.00E+03
397	Private hospitals	0.00E+00	2.92E-02	6.21E+03	6.21E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	3.72E+03	3.72E+03
399	Child day care services	0.00E+00	0.00E+00	8.66E+02	8.66E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
400	Individual and family services	0.00E+00	0.00E+00	1.06E+03	1.06E+03
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	6.47E-05	7.92E+02	7.92E+02
402	Performing arts companies	0.00E+00	6.97E+00	6.77E+00	1.37E+01
403	Spectator sports companies	0.00E+00	2.37E+02	2.37E+02	4.74E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.05E+01	1.20E+01	2.26E+01
405	Independent artists, writers, and performers	0.00E+00	4.37E+02	9.74E+01	5.35E+02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	9.30E+00	9.30E+00
407	Fitness and recreational sports centers	0.00E+00	1.05E+02	1.29E+02	2.33E+02
408	Bowling centers	0.00E+00	8.42E-02	6.00E+00	6.08E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	4.10E-01	2.41E+02	2.41E+02
410	Other amusement and recreation industries	0.00E+00	1.37E+02	2.64E+02	4.01E+02
411	Hotels and motels, including casino hotels	0.00E+00	2.34E+01	2.12E+01	4.46E+01
412	Other accommodations	0.00E+00	3.04E-02	3.62E-02	6.66E-02
413	Food services and drinking places	0.00E+00	4.83E+03	5.80E+03	1.06E+04
414	Automotive repair and maintenance, except car washes	0.00E+00	1.16E+03	1.42E+03	2.58E+03
415	Car washes	0.00E+00	3.16E+01	1.19E+02	1.50E+02
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.19E+03	1.38E+02	1.33E+03
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.02E+03	2.24E+02	1.24E+03
418	Personal and household goods repair and maintenance	0.00E+00	9.10E+01	6.13E+01	1.52E+02
419	Personal care services	0.00E+00	1.31E-04	6.51E+02	6.51E+02
420	Death care services	0.00E+00	0.00E+00	2.70E+01	2.70E+01
421	Dry-cleaning and laundry services	0.00E+00	1.51E+02	3.48E+02	4.99E+02
422	Other personal services	0.00E+00	1.62E+03	6.17E+02	2.24E+03
423	Religious organizations	0.00E+00	0.00E+00	3.14E+02	3.14E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	6.92E-01	1.20E+03	1.20E+03
425	Civic, social, professional, and similar organizations	0.00E+00	1.37E+03	2.42E+03	3.79E+03
426	Private household operations	0.00E+00	0.00E+00	9.63E+02	9.63E+02
427	US Postal Service	0.00E+00	2.28E+03	1.05E+03	3.33E+03
429	Other Federal Government enterprises	0.00E+00	4.94E+01	8.97E+01	1.39E+02
430	State and local government passenger transit	0.00E+00	8.12E+02	4.87E+02	1.30E+03
431	State and local government electric utilities	0.00E+00	1.08E+02	2.47E+02	3.56E+02
432	Other state and local government enterprises	0.00E+00	8.28E+02	2.50E+03	3.33E+03

Year 1 Construction		Value Added			
ID	Description	Direct	Indirect	Induced	Total
0	Total	4.66E+05	1.43E+05	1.94E+05	8.04E+05
1	Oilseed farming	0.00E+00	1.34E+00	2.69E+00	4.03E+00
2	Grain farming	0.00E+00	7.11E+00	2.07E+01	2.79E+01
3	Vegetable and melon farming	0.00E+00	5.26E+00	2.39E+02	2.44E+02
4	Fruit farming	0.00E+00	5.81E+00	2.32E+02	2.38E+02
5	Tree nut farming	0.00E+00	1.02E+01	5.33E+01	6.36E+01
6	Greenhouse, nursery, and floriculture production	0.00E+00	6.45E-01	7.02E+00	7.66E+00
9	Sugarcane and sugar beet farming	0.00E+00	1.33E-01	9.41E-02	2.27E-01
10	All other crop farming	0.00E+00	4.40E+01	1.92E+01	6.32E+01
11	Cattle ranching and farming	0.00E+00	3.16E-01	1.01E+00	1.32E+00
12	Dairy cattle and milk production	0.00E+00	4.24E+00	8.34E+00	1.26E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Value Added			
ID	Description	Direct	Indirect	Induced	Total
13	Poultry and egg production	0.00E+00	4.15E-02	2.76E+00	2.80E+00
14	Animal production, except cattle and poultry and eggs	0.00E+00	2.14E+00	2.40E+01	2.61E+01
15	Forestry, forest products, and timber tract production	0.00E+00	1.03E+00	1.63E+00	2.66E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	1.01E+00	1.01E+00
19	Support activities for agriculture and forestry	0.00E+00	2.46E+01	1.47E+02	1.72E+02
20	Extraction of oil and natural gas	0.00E+00	8.15E+01	9.71E+01	1.79E+02
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.80E+01	1.44E+01	3.25E+01
29	Support activities for oil and gas operations	0.00E+00	2.89E+00	3.11E+00	6.01E+00
31	Electric power generation, transmission, and distribution	0.00E+00	1.59E+03	3.66E+03	5.24E+03
32	Natural gas distribution	0.00E+00	1.69E+01	4.41E+01	6.10E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	1.10E+00	7.35E+00	8.44E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	2.11E+03	1.14E+03	3.25E+03
40	Maintenance and repair construction of residential structures	0.00E+00	2.72E+01	4.15E+02	4.42E+02
41	Dog and cat food manufacturing	0.00E+00	2.79E-02	2.47E+00	2.50E+00
42	Other animal food manufacturing	0.00E+00	2.64E+00	2.35E+01	2.61E+01
43	Flour milling and malt manufacturing	0.00E+00	2.64E+00	4.49E+01	4.76E+01
52	Nonchocolate confectionery manufacturing	0.00E+00	1.45E-01	2.75E+00	2.90E+00
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	4.83E+00	6.23E+01	6.72E+01
62	Bread and bakery product manufacturing	0.00E+00	2.86E-01	3.84E+00	4.13E+00
64	Tortilla manufacturing	0.00E+00	1.16E-02	5.56E+00	5.57E+00
69	All other food manufacturing	0.00E+00	1.36E+00	1.16E+01	1.30E+01
70	Soft drink and ice manufacturing	0.00E+00	1.70E+01	3.74E+02	3.91E+02
71	Breweries	0.00E+00	4.79E+00	1.34E+02	1.39E+02
72	Wineries	0.00E+00	2.91E+00	4.87E+01	5.16E+01
76	Broadwoven fabric mills	0.00E+00	5.87E-02	8.68E-01	9.26E-01
80	Textile and fabric finishing mills	0.00E+00	6.11E-01	3.17E+00	3.78E+00
84	Textile bag and canvas mills	0.00E+00	1.29E-02	7.05E-02	8.33E-02
85	All other textile product mills	0.00E+00	7.12E-01	1.55E+00	2.26E+00
87	Cut and sew apparel contractors	0.00E+00	2.91E+00	6.35E+00	9.26E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.63E-03	1.27E-01	1.29E-01
93	Footwear manufacturing	0.00E+00	2.64E-12	1.27E+00	1.27E+00
95	Sawmills and wood preservation	0.00E+00	1.86E+01	1.79E+01	3.65E+01
97	Engineered wood member and truss manufacturing	0.00E+00	3.22E-01	5.31E-01	8.54E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	6.81E-01	7.02E-01	1.38E+00
100	Wood container and pallet manufacturing	0.00E+00	8.41E+00	3.03E+01	3.87E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	2.05E-01	1.53E-01	3.58E-01
103	All other miscellaneous wood product manufacturing	0.00E+00	4.53E-01	1.27E+00	1.72E+00
107	Paperboard container manufacturing	0.00E+00	1.27E+02	5.58E+01	1.83E+02
113	Printing	0.00E+00	4.53E+02	2.19E+02	6.72E+02
114	Support activities for printing	0.00E+00	8.42E-01	8.00E-02	9.22E-01
130	Fertilizer manufacturing	0.00E+00	4.99E+00	1.50E+01	2.00E+01
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	6.93E+00	1.00E+02	1.07E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	1.76E-01	1.55E+01	1.57E+01
134	In-vitro diagnostic substance manufacturing	0.00E+00	2.63E-02	1.32E-01	1.58E-01
135	Biological product (except diagnostic) manufacturing	0.00E+00	5.85E+00	7.53E+00	1.34E+01
140	Printing ink manufacturing	0.00E+00	3.14E+00	9.42E-01	4.08E+00
141	All other chemical product and preparation manufacturing	0.00E+00	6.77E-01	2.46E-01	9.22E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Value Added			
ID	Description	Direct	Indirect	Induced	Total
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.68E+00	2.02E+00	3.69E+00
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.38E+01	2.32E+00	1.62E+01
149	Other plastics product manufacturing	0.00E+00	7.74E+00	5.79E+00	1.35E+01
150	Tire manufacturing	0.00E+00	9.27E-01	3.49E+00	4.42E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	1.03E+02	2.54E+01	1.29E+02
163	Other concrete product manufacturing	0.00E+00	1.21E+02	4.49E+01	1.66E+02
167	Ground or treated mineral and earth manufacturing	0.00E+00	2.49E+00	3.73E+00	6.22E+00
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.53E+02	4.24E+00	1.57E+02
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.40E+01	3.37E+00	1.74E+01
187	Ornamental and architectural metal products manufacturing	0.00E+00	2.98E+01	6.85E+00	3.67E+01
194	Spring and wire product manufacturing	0.00E+00	8.82E+00	1.61E+00	1.04E+01
195	Machine shops	0.00E+00	1.20E+00	3.63E-01	1.56E+00
197	Coating, engraving, heat treating and allied activities	0.00E+00	9.62E-02	7.16E-02	1.68E-01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	7.09E+00	1.73E+00	8.83E+00
203	Farm machinery and equipment manufacturing	0.00E+00	2.49E-01	3.14E-01	5.64E-01
205	Construction machinery manufacturing	0.00E+00	8.86E-02	4.12E-03	9.27E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	4.79E-01	4.74E-02	5.27E-01
207	Other industrial machinery manufacturing	0.00E+00	4.06E-02	7.15E-02	1.12E-01
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.28E-02	3.74E-03	1.66E-02
211	Optical instrument and lens manufacturing	0.00E+00	1.79E-02	8.64E-03	2.66E-02
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	2.09E-02	3.18E-03	2.41E-02
226	Pump and pumping equipment manufacturing	0.00E+00	3.32E-02	3.08E-02	6.40E-02
228	Material handling equipment manufacturing	0.00E+00	6.93E-02	2.51E-02	9.45E-02
233	Fluid power process machinery manufacturing	0.00E+00	1.46E-01	5.81E-02	2.05E-01
234	Electronic computer manufacturing	0.00E+00	3.21E-01	3.75E-01	6.96E-01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	3.34E+00	1.69E+00	5.02E+00
237	Telephone apparatus manufacturing	0.00E+00	8.97E-02	7.41E-02	1.64E-01
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	1.70E-02	4.07E-02	5.77E-02
240	Audio and video equipment manufacturing	0.00E+00	1.47E-02	4.15E-02	5.62E-02
241	Electron tube manufacturing	0.00E+00	4.50E-02	1.93E-02	6.43E-02
243	Semiconductor and related device manufacturing	0.00E+00	3.82E-01	1.97E-01	5.79E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	2.61E-01	1.18E-01	3.79E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	9.21E-03	2.56E-02	3.48E-02
250	Automatic environmental control manufacturing	0.00E+00	5.33E-02	2.02E-02	7.35E-02
251	Industrial process variable instruments manufacturing	0.00E+00	9.66E-02	4.34E-02	1.40E-01
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.02E-01	1.02E-01	2.04E-01
253	Electricity and signal testing instruments manufacturing	0.00E+00	8.56E-03	9.15E-03	1.77E-02
269	Relay and industrial control manufacturing	0.00E+00	7.02E-02	2.73E-02	9.76E-02
273	Wiring device manufacturing	0.00E+00	3.48E+00	3.72E+00	7.19E+00
279	Motor vehicle body manufacturing	0.00E+00	1.33E-01	1.86E-01	3.19E-01
280	Truck trailer manufacturing	0.00E+00	1.33E-02	1.12E-02	2.45E-02
282	Travel trailer and camper manufacturing	0.00E+00	4.52E-01	3.21E+00	3.66E+00
283	Motor vehicle parts manufacturing	0.00E+00	1.62E+00	1.82E+00	3.44E+00
284	Aircraft manufacturing	0.00E+00	6.13E-03	1.90E-02	2.52E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Value Added			
ID	Description	Direct	Indirect	Induced	Total
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.62E-03	3.89E-02	4.05E-02
294	All other transportation equipment manufacturing	0.00E+00	1.26E-02	6.98E-01	7.10E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	8.52E-02	3.74E-01	4.59E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	1.22E-04	2.07E-01	2.07E-01
300	Office Furniture	0.00E+00	2.93E-03	2.22E+00	2.22E+00
304	Blind and shade manufacturing	0.00E+00	1.93E+00	2.28E+00	4.20E+00
312	Doll, toy, and game manufacturing	0.00E+00	8.73E-02	1.24E+01	1.25E+01
313	Office supplies (except paper) manufacturing	0.00E+00	3.65E-01	2.30E-01	5.95E-01
317	All other miscellaneous manufacturing	0.00E+00	8.96E+00	7.68E+00	1.66E+01
319	Wholesale trade businesses	0.00E+00	2.77E+03	1.08E+04	1.36E+04
320	Retail Stores - Motor vehicle and parts	0.00E+00	6.65E+01	3.47E+03	3.54E+03
321	Retail Stores - Furniture and home furnishings	0.00E+00	1.07E+01	1.17E+03	1.18E+03
322	Retail Stores - Electronics and appliances	0.00E+00	5.65E+00	5.09E+02	5.14E+02
323	Retail Stores - Building material and garden supply	0.00E+00	5.17E+01	1.89E+03	1.94E+03
324	Retail Stores - Food and beverage	0.00E+00	5.82E+01	5.10E+03	5.16E+03
325	Retail Stores - Health and personal care	0.00E+00	1.88E+01	1.62E+03	1.64E+03
326	Retail Stores - Gasoline stations	0.00E+00	2.58E+01	1.76E+03	1.79E+03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	7.46E+00	7.14E+02	7.21E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	9.53E+00	8.97E+02	9.06E+02
329	Retail Stores - General merchandise	0.00E+00	5.56E+01	4.91E+03	4.96E+03
330	Retail Stores - Miscellaneous	0.00E+00	1.33E+01	1.22E+03	1.23E+03
331	Retail Nonstores - Direct and electronic sales	0.00E+00	8.74E+00	9.55E+02	9.64E+02
332	Transport by air	0.00E+00	9.26E-01	8.20E-01	1.75E+00
333	Transport by rail	0.00E+00	3.48E+01	3.24E+01	6.72E+01
334	Transport by water	0.00E+00	2.64E+00	7.89E+00	1.05E+01
335	Transport by truck	0.00E+00	9.03E+02	1.60E+03	2.50E+03
336	Transit and ground passenger transportation	0.00E+00	7.99E+02	4.79E+02	1.28E+03
337	Transport by pipeline	0.00E+00	1.49E+00	5.34E+00	6.83E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	7.09E+02	4.16E+02	1.13E+03
339	Couriers and messengers	0.00E+00	1.88E+03	7.36E+02	2.61E+03
340	Warehousing and storage	0.00E+00	5.96E+02	6.52E+02	1.25E+03
341	Newspaper publishers	0.00E+00	2.55E+02	2.81E+02	5.36E+02
342	Periodical publishers	0.00E+00	4.29E+01	1.93E+01	6.21E+01
343	Book publishers	0.00E+00	4.45E-01	1.81E+00	2.26E+00
344	Directory, mailing list, and other publishers	0.00E+00	4.81E+01	2.35E+01	7.16E+01
345	Software publishers	0.00E+00	1.99E+01	2.09E+00	2.20E+01
346	Motion picture and video industries	0.00E+00	3.11E+02	3.51E+02	6.62E+02
347	Sound recording industries	0.00E+00	7.00E+00	6.34E+01	7.03E+01
348	Radio and television broadcasting	0.00E+00	9.85E+02	5.65E+02	1.55E+03
349	Cable and other subscription programming	0.00E+00	5.78E+01	3.58E+01	9.35E+01
350	Internet publishing and broadcasting	0.00E+00	3.29E+02	7.64E+01	4.05E+02
351	Telecommunications	0.00E+00	9.75E+03	5.26E+03	1.50E+04
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	9.40E+01	2.09E+02	3.03E+02
353	Other information services	0.00E+00	3.16E+01	2.12E+01	5.28E+01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	7.92E+03	6.63E+03	1.45E+04
355	Nondepository credit intermediation and related activities	0.00E+00	1.77E+03	3.27E+03	5.04E+03
356	Securities, commodity contracts, investments, and related	0.00E+00	2.05E+02	5.25E+02	7.30E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Value Added			
ID	Description	Direct	Indirect	Induced	Total
	activities				
357	Insurance carriers	0.00E+00	2.70E+03	2.05E+03	4.74E+03
358	Insurance agencies, brokerages, and related activities	0.00E+00	9.60E+02	8.24E+02	1.78E+03
359	Funds, trusts, and other financial vehicles	0.00E+00	4.30E+01	1.48E+03	1.52E+03
360	Real estate establishments	0.00E+00	2.17E+04	1.99E+04	4.16E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	4.10E+04	4.10E+04
362	Automotive equipment rental and leasing	0.00E+00	1.47E+03	1.02E+03	2.49E+03
363	General and consumer goods rental except video tapes and discs	0.00E+00	3.49E+01	1.29E+02	1.64E+02
364	Video tape and disc rental	0.00E+00	0.00E+00	1.10E+02	1.10E+02
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	8.42E+02	1.89E+02	1.03E+03
366	Lessors of nonfinancial intangible assets	0.00E+00	7.71E+02	1.41E+02	9.11E+02
367	Legal services	0.00E+00	1.43E+03	9.03E+02	2.34E+03
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	2.61E+03	5.03E+02	3.11E+03
369	Architectural, engineering, and related services	1.90E+05	1.67E+04	6.02E+02	2.07E+05
370	Specialized design services	0.00E+00	1.54E+03	8.51E+01	1.63E+03
371	Custom computer programming services	0.00E+00	4.20E+02	4.58E+01	4.65E+02
372	Computer systems design services	0.00E+00	4.85E+01	5.93E+00	5.44E+01
373	Other computer related services, including facilities management	0.00E+00	7.49E+02	6.20E+01	8.11E+02
374	Management, scientific, and technical consulting services	0.00E+00	1.07E+04	1.14E+03	1.18E+04
375	Environmental and other technical consulting services	2.76E+05	1.92E+03	1.30E+02	2.78E+05
376	Scientific research and development services	0.00E+00	1.37E+03	2.94E+02	1.66E+03
377	Advertising and related services	0.00E+00	1.15E+03	6.34E+02	1.79E+03
378	Photographic services	0.00E+00	1.15E+03	1.10E+02	1.26E+03
379	Veterinary services	0.00E+00	1.44E+00	4.51E+02	4.53E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.39E+03	1.10E+02	1.50E+03
381	Management of companies and enterprises	0.00E+00	3.08E+03	8.93E+02	3.98E+03
382	Employment services	0.00E+00	4.19E+03	3.73E+02	4.56E+03
383	Travel arrangement and reservation services	0.00E+00	2.68E+02	6.34E+01	3.32E+02
384	Office administrative services	0.00E+00	1.60E+03	1.41E+02	1.74E+03
386	Business support services	0.00E+00	9.58E+02	2.03E+02	1.16E+03
387	Investigation and security services	0.00E+00	1.34E+03	3.37E+02	1.68E+03
388	Services to buildings and dwellings	0.00E+00	4.02E+03	1.28E+03	5.30E+03
389	Other support services	0.00E+00	1.17E+03	8.84E+01	1.26E+03
390	Waste management and remediation services	0.00E+00	6.77E+02	7.76E+02	1.45E+03
391	Private elementary and secondary schools	0.00E+00	0.00E+00	3.50E+02	3.50E+02
393	Other private educational services	0.00E+00	7.81E+00	5.47E+02	5.55E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	3.55E-02	1.02E+04	1.02E+04
395	Home health care services	0.00E+00	0.00E+00	5.73E+02	5.73E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	2.85E+00	3.96E+03	3.96E+03
397	Private hospitals	0.00E+00	3.18E-02	6.75E+03	6.75E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	4.29E+03	4.29E+03
399	Child day care services	0.00E+00	0.00E+00	1.16E+03	1.16E+03
400	Individual and family services	0.00E+00	0.00E+00	1.02E+03	1.02E+03
401	Community food, housing, and other relief services,	0.00E+00	6.25E-05	7.65E+02	7.65E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Value Added			
ID	Description	Direct	Indirect	Induced	Total
	including rehabilitation services				
402	Performing arts companies	0.00E+00	5.53E+00	5.38E+00	1.09E+01
403	Spectator sports companies	0.00E+00	2.76E+02	2.76E+02	5.52E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	2.12E+01	2.41E+01	4.53E+01
405	Independent artists, writers, and performers	0.00E+00	7.84E+02	1.74E+02	9.58E+02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	5.29E+01	5.29E+01
407	Fitness and recreational sports centers	0.00E+00	2.04E+02	2.51E+02	4.55E+02
408	Bowling centers	0.00E+00	2.49E-01	1.77E+01	1.80E+01
409	Amusement parks, arcades, and gambling industries	0.00E+00	1.41E+00	8.29E+02	8.31E+02
410	Other amusement and recreation industries	0.00E+00	2.52E+02	4.87E+02	7.39E+02
411	Hotels and motels, including casino hotels	0.00E+00	6.19E+01	5.59E+01	1.18E+02
412	Other accommodations	0.00E+00	4.74E-02	5.65E-02	1.04E-01
413	Food services and drinking places	0.00E+00	8.18E+03	9.83E+03	1.80E+04
414	Automotive repair and maintenance, except car washes	0.00E+00	1.34E+03	1.64E+03	2.98E+03
415	Car washes	0.00E+00	3.57E+01	1.34E+02	1.69E+02
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.77E+03	2.04E+02	1.97E+03
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.33E+03	2.93E+02	1.62E+03
418	Personal and household goods repair and maintenance	0.00E+00	1.27E+02	8.55E+01	2.12E+02
419	Personal care services	0.00E+00	1.42E-04	7.05E+02	7.05E+02
420	Death care services	0.00E+00	0.00E+00	1.92E+01	1.92E+01
421	Dry-cleaning and laundry services	0.00E+00	1.54E+02	3.55E+02	5.09E+02
422	Other personal services	0.00E+00	1.98E+03	7.53E+02	2.73E+03
423	Religious organizations	0.00E+00	0.00E+00	3.58E+02	3.58E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	6.72E-01	1.17E+03	1.17E+03
425	Civic, social, professional, and similar organizations	0.00E+00	1.37E+03	2.42E+03	3.78E+03
426	Private household operations	0.00E+00	0.00E+00	9.63E+02	9.63E+02
427	US Postal Service	0.00E+00	2.23E+03	1.02E+03	3.25E+03
429	Other Federal Government enterprises	0.00E+00	6.44E+01	1.17E+02	1.81E+02
430	State and local government passenger transit	0.00E+00	6.31E+01	3.78E+01	1.01E+02
431	State and local government electric utilities	0.00E+00	1.89E+02	4.31E+02	6.19E+02
432	Other state and local government enterprises	0.00E+00	7.02E+02	2.12E+03	2.82E+03

Year 1 Construction		Output			
ID	Description	Direct	Indirect	Induced	Total
0	Total	8.10E+05	2.43E+05	3.03E+05	1.36E+06
1	Oilseed farming	0.00E+00	2.97E+00	5.96E+00	8.92E+00
2	Grain farming	0.00E+00	3.19E+01	9.30E+01	1.25E+02
3	Vegetable and melon farming	0.00E+00	9.47E+00	4.30E+02	4.39E+02
4	Fruit farming	0.00E+00	1.00E+01	4.00E+02	4.10E+02
5	Tree nut farming	0.00E+00	1.71E+01	8.90E+01	1.06E+02
6	Greenhouse, nursery, and floriculture production	0.00E+00	8.93E-01	9.71E+00	1.06E+01
9	Sugarcane and sugar beet farming	0.00E+00	2.93E-01	2.07E-01	5.00E-01
10	All other crop farming	0.00E+00	1.30E+02	5.70E+01	1.87E+02
11	Cattle ranching and farming	0.00E+00	1.79E+00	5.70E+00	7.49E+00
12	Dairy cattle and milk production	0.00E+00	1.09E+01	2.14E+01	3.23E+01
13	Poultry and egg production	0.00E+00	2.14E-01	1.43E+01	1.45E+01
14	Animal production, except cattle and poultry and eggs	0.00E+00	4.11E+00	4.61E+01	5.02E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Output			
ID	Description	Direct	Indirect	Induced	Total
15	Forestry, forest products, and timber tract production	0.00E+00	1.80E+00	2.87E+00	4.67E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	2.33E+00	2.33E+00
19	Support activities for agriculture and forestry	0.00E+00	2.98E+01	1.79E+02	2.09E+02
20	Extraction of oil and natural gas	0.00E+00	1.31E+02	1.56E+02	2.87E+02
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	3.12E+01	2.50E+01	5.62E+01
29	Support activities for oil and gas operations	0.00E+00	7.69E+00	8.27E+00	1.60E+01
31	Electric power generation, transmission, and distribution	0.00E+00	1.77E+03	4.10E+03	5.87E+03
32	Natural gas distribution	0.00E+00	3.94E+01	1.03E+02	1.42E+02
33	Water, sewage and other treatment and delivery systems	0.00E+00	1.38E+00	9.21E+00	1.06E+01
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.76E+03	2.04E+03	5.80E+03
40	Maintenance and repair construction of residential structures	0.00E+00	5.70E+01	8.70E+02	9.27E+02
41	Dog and cat food manufacturing	0.00E+00	7.61E-02	6.74E+00	6.82E+00
42	Other animal food manufacturing	0.00E+00	1.62E+01	1.44E+02	1.60E+02
43	Flour milling and malt manufacturing	0.00E+00	1.90E+01	3.24E+02	3.43E+02
52	Nonchocolate confectionery manufacturing	0.00E+00	5.01E-01	9.49E+00	9.99E+00
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.98E+01	2.55E+02	2.75E+02
62	Bread and bakery product manufacturing	0.00E+00	1.50E+00	2.01E+01	2.16E+01
64	Tortilla manufacturing	0.00E+00	5.18E-02	2.47E+01	2.48E+01
69	All other food manufacturing	0.00E+00	5.13E+00	4.36E+01	4.88E+01
70	Soft drink and ice manufacturing	0.00E+00	1.12E+02	2.46E+03	2.58E+03
71	Breweries	0.00E+00	1.08E+01	3.02E+02	3.13E+02
72	Wineries	0.00E+00	9.39E+00	1.57E+02	1.67E+02
76	Broadwoven fabric mills	0.00E+00	1.87E-01	2.76E+00	2.95E+00
80	Textile and fabric finishing mills	0.00E+00	2.21E+00	1.15E+01	1.37E+01
84	Textile bag and canvas mills	0.00E+00	2.73E-02	1.49E-01	1.76E-01
85	All other textile product mills	0.00E+00	1.92E+00	4.19E+00	6.11E+00
87	Cut and sew apparel contractors	0.00E+00	6.00E+00	1.31E+01	1.91E+01
91	Apparel accessories and other apparel manufacturing	0.00E+00	8.63E-03	6.75E-01	6.83E-01
93	Footwear manufacturing	0.00E+00	6.88E-12	3.31E+00	3.31E+00
95	Sawmills and wood preservation	0.00E+00	7.14E+01	6.87E+01	1.40E+02
97	Engineered wood member and truss manufacturing	0.00E+00	8.26E-01	1.36E+00	2.19E+00
99	Wood windows and doors and millwork manufacturing	0.00E+00	2.17E+00	2.23E+00	4.40E+00
100	Wood container and pallet manufacturing	0.00E+00	1.83E+01	6.61E+01	8.45E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	7.06E-01	5.28E-01	1.23E+00
103	All other miscellaneous wood product manufacturing	0.00E+00	1.11E+00	3.11E+00	4.22E+00
107	Paperboard container manufacturing	0.00E+00	5.62E+02	2.47E+02	8.09E+02
113	Printing	0.00E+00	1.16E+03	5.64E+02	1.73E+03
114	Support activities for printing	0.00E+00	1.59E+00	1.51E-01	1.74E+00
130	Fertilizer manufacturing	0.00E+00	3.67E+01	1.10E+02	1.47E+02
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	2.33E+01	3.36E+02	3.60E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	5.89E-01	5.19E+01	5.25E+01
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.51E-01	7.58E-01	9.10E-01
135	Biological product (except diagnostic) manufacturing	0.00E+00	2.11E+01	2.71E+01	4.82E+01
140	Printing ink manufacturing	0.00E+00	1.24E+01	3.73E+00	1.62E+01
141	All other chemical product and preparation manufacturing	0.00E+00	2.30E+00	8.35E-01	3.13E+00
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	5.01E+00	6.03E+00	1.10E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Output			
ID	Description	Direct	Indirect	Induced	Total
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	3.75E+01	6.28E+00	4.38E+01
149	Other plastics product manufacturing	0.00E+00	2.22E+01	1.66E+01	3.88E+01
150	Tire manufacturing	0.00E+00	3.14E+00	1.18E+01	1.50E+01
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.20E+02	5.41E+01	2.74E+02
163	Other concrete product manufacturing	0.00E+00	2.40E+02	8.92E+01	3.29E+02
167	Ground or treated mineral and earth manufacturing	0.00E+00	5.31E+00	7.96E+00	1.33E+01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	3.90E+02	1.08E+01	4.01E+02
186	Plate work and fabricated structural product manufacturing	0.00E+00	3.43E+01	8.23E+00	4.25E+01
187	Ornamental and architectural metal products manufacturing	0.00E+00	8.02E+01	1.84E+01	9.86E+01
194	Spring and wire product manufacturing	0.00E+00	1.92E+01	3.50E+00	2.27E+01
195	Machine shops	0.00E+00	2.33E+00	7.03E-01	3.03E+00
197	Coating, engraving, heat treating and allied activities	0.00E+00	2.24E-01	1.66E-01	3.90E-01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.43E+01	3.50E+00	1.78E+01
203	Farm machinery and equipment manufacturing	0.00E+00	9.22E-01	1.16E+00	2.08E+00
205	Construction machinery manufacturing	0.00E+00	4.13E-01	1.92E-02	4.32E-01
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.44E+00	1.43E-01	1.59E+00
207	Other industrial machinery manufacturing	0.00E+00	1.05E-01	1.85E-01	2.90E-01
208	Plastics and rubber industry machinery manufacturing	0.00E+00	5.97E-02	1.74E-02	7.71E-02
211	Optical instrument and lens manufacturing	0.00E+00	6.48E-02	3.12E-02	9.60E-02
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	5.92E-02	9.03E-03	6.82E-02
226	Pump and pumping equipment manufacturing	0.00E+00	1.13E-01	1.04E-01	2.17E-01
228	Material handling equipment manufacturing	0.00E+00	2.97E-01	1.08E-01	4.05E-01
233	Fluid power process machinery manufacturing	0.00E+00	3.98E-01	1.58E-01	5.56E-01
234	Electronic computer manufacturing	0.00E+00	5.73E-01	6.70E-01	1.24E+00
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	6.48E+00	3.28E+00	9.76E+00
237	Telephone apparatus manufacturing	0.00E+00	2.41E-01	1.99E-01	4.41E-01
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	8.99E-02	2.15E-01	3.05E-01
240	Audio and video equipment manufacturing	0.00E+00	6.42E-02	1.81E-01	2.45E-01
241	Electron tube manufacturing	0.00E+00	1.48E-01	6.37E-02	2.12E-01
243	Semiconductor and related device manufacturing	0.00E+00	6.81E-01	3.50E-01	1.03E+00
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	9.41E-01	4.23E-01	1.36E+00
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.61E-02	7.26E-02	9.87E-02
250	Automatic environmental control manufacturing	0.00E+00	1.52E-01	5.76E-02	2.09E-01
251	Industrial process variable instruments manufacturing	0.00E+00	3.33E-01	1.50E-01	4.83E-01
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	4.94E-01	4.95E-01	9.88E-01
253	Electricity and signal testing instruments manufacturing	0.00E+00	1.96E-02	2.10E-02	4.06E-02
269	Relay and industrial control manufacturing	0.00E+00	1.76E-01	6.86E-02	2.45E-01
273	Wiring device manufacturing	0.00E+00	6.87E+00	7.34E+00	1.42E+01
279	Motor vehicle body manufacturing	0.00E+00	3.48E-01	4.88E-01	8.36E-01
280	Truck trailer manufacturing	0.00E+00	5.54E-02	4.64E-02	1.02E-01
282	Travel trailer and camper manufacturing	0.00E+00	2.43E+00	1.73E+01	1.97E+01
283	Motor vehicle parts manufacturing	0.00E+00	1.08E+01	1.21E+01	2.29E+01
284	Aircraft manufacturing	0.00E+00	2.70E-02	8.39E-02	1.11E-01
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.11E-02	2.68E-01	2.80E-01
294	All other transportation equipment manufacturing	0.00E+00	5.05E-02	2.80E+00	2.85E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Output			
ID	Description	Direct	Indirect	Induced	Total
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	2.26E-01	9.92E-01	1.22E+00
297	Nonupholstered wood household furniture manufacturing	0.00E+00	2.44E-04	4.15E-01	4.15E-01
300	Office Furniture	0.00E+00	6.66E-03	5.03E+00	5.04E+00
304	Blind and shade manufacturing	0.00E+00	6.47E+00	7.64E+00	1.41E+01
312	Doll, toy, and game manufacturing	0.00E+00	1.33E-01	1.89E+01	1.90E+01
313	Office supplies (except paper) manufacturing	0.00E+00	5.68E-01	3.58E-01	9.25E-01
317	All other miscellaneous manufacturing	0.00E+00	1.57E+01	1.35E+01	2.92E+01
319	Wholesale trade businesses	0.00E+00	3.49E+03	1.37E+04	1.72E+04
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.09E+02	5.71E+03	5.82E+03
321	Retail Stores - Furniture and home furnishings	0.00E+00	1.59E+01	1.73E+03	1.75E+03
322	Retail Stores - Electronics and appliances	0.00E+00	1.10E+01	9.89E+02	1.00E+03
323	Retail Stores - Building material and garden supply	0.00E+00	7.28E+01	2.66E+03	2.74E+03
324	Retail Stores - Food and beverage	0.00E+00	7.54E+01	6.61E+03	6.68E+03
325	Retail Stores - Health and personal care	0.00E+00	2.72E+01	2.34E+03	2.37E+03
326	Retail Stores - Gasoline stations	0.00E+00	3.29E+01	2.25E+03	2.28E+03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	1.30E+01	1.25E+03	1.26E+03
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	1.46E+01	1.38E+03	1.39E+03
329	Retail Stores - General merchandise	0.00E+00	7.15E+01	6.31E+03	6.38E+03
330	Retail Stores - Miscellaneous	0.00E+00	2.06E+01	1.89E+03	1.91E+03
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.61E+01	1.76E+03	1.77E+03
332	Transport by air	0.00E+00	5.65E+00	5.00E+00	1.06E+01
333	Transport by rail	0.00E+00	6.21E+01	5.77E+01	1.20E+02
334	Transport by water	0.00E+00	6.15E+00	1.84E+01	2.45E+01
335	Transport by truck	0.00E+00	1.49E+03	2.65E+03	4.14E+03
336	Transit and ground passenger transportation	0.00E+00	9.82E+02	5.89E+02	1.57E+03
337	Transport by pipeline	0.00E+00	8.81E+00	3.15E+01	4.03E+01
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	1.16E+03	6.79E+02	1.84E+03
339	Couriers and messengers	0.00E+00	2.38E+03	9.32E+02	3.31E+03
340	Warehousing and storage	0.00E+00	9.45E+02	1.03E+03	1.98E+03
341	Newspaper publishers	0.00E+00	5.00E+02	5.51E+02	1.05E+03
342	Periodical publishers	0.00E+00	1.21E+02	5.44E+01	1.76E+02
343	Book publishers	0.00E+00	1.01E+00	4.11E+00	5.12E+00
344	Directory, mailing list, and other publishers	0.00E+00	1.14E+02	5.58E+01	1.70E+02
345	Software publishers	0.00E+00	3.16E+01	3.31E+00	3.49E+01
346	Motion picture and video industries	0.00E+00	5.90E+02	6.66E+02	1.26E+03
347	Sound recording industries	0.00E+00	1.92E+01	1.74E+02	1.93E+02
348	Radio and television broadcasting	0.00E+00	2.61E+03	1.50E+03	4.10E+03
349	Cable and other subscription programming	0.00E+00	2.03E+02	1.26E+02	3.29E+02
350	Internet publishing and broadcasting	0.00E+00	8.27E+02	1.92E+02	1.02E+03
351	Telecommunications	0.00E+00	1.71E+04	9.24E+03	2.64E+04
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.33E+02	2.95E+02	4.28E+02
353	Other information services	0.00E+00	4.14E+01	2.77E+01	6.91E+01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.69E+04	1.41E+04	3.10E+04
355	Nondepository credit intermediation and related activities	0.00E+00	3.31E+03	6.10E+03	9.40E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	2.52E+03	6.47E+03	8.99E+03
357	Insurance carriers	0.00E+00	4.11E+03	3.13E+03	7.24E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Output			
ID	Description	Direct	Indirect	Induced	Total
358	Insurance agencies, brokerages, and related activities	0.00E+00	1.41E+03	1.21E+03	2.61E+03
359	Funds, trusts, and other financial vehicles	0.00E+00	1.01E+02	3.48E+03	3.58E+03
360	Real estate establishments	0.00E+00	2.50E+04	2.30E+04	4.80E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	4.66E+04	4.66E+04
362	Automotive equipment rental and leasing	0.00E+00	2.38E+03	1.65E+03	4.03E+03
363	General and consumer goods rental except video tapes and discs	0.00E+00	6.67E+01	2.47E+02	3.14E+02
364	Video tape and disc rental	0.00E+00	0.00E+00	2.02E+02	2.02E+02
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.58E+03	3.54E+02	1.93E+03
366	Lessors of nonfinancial intangible assets	0.00E+00	9.55E+02	1.74E+02	1.13E+03
367	Legal services	0.00E+00	2.04E+03	1.29E+03	3.33E+03
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	3.95E+03	7.62E+02	4.71E+03
369	Architectural, engineering, and related services	3.60E+05	3.16E+04	1.14E+03	3.93E+05
370	Specialized design services	0.00E+00	1.98E+03	1.09E+02	2.09E+03
371	Custom computer programming services	0.00E+00	7.49E+02	8.17E+01	8.31E+02
372	Computer systems design services	0.00E+00	4.32E+02	5.28E+01	4.85E+02
373	Other computer related services, including facilities management	0.00E+00	1.01E+03	8.38E+01	1.10E+03
374	Management, scientific, and technical consulting services	0.00E+00	1.89E+04	2.01E+03	2.09E+04
375	Environmental and other technical consulting services	4.50E+05	3.12E+03	2.11E+02	4.53E+05
376	Scientific research and development services	0.00E+00	3.17E+03	6.81E+02	3.86E+03
377	Advertising and related services	0.00E+00	1.74E+03	9.55E+02	2.70E+03
378	Photographic services	0.00E+00	1.48E+03	1.42E+02	1.62E+03
379	Veterinary services	0.00E+00	2.33E+00	7.32E+02	7.34E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.74E+03	1.37E+02	1.87E+03
381	Management of companies and enterprises	0.00E+00	5.18E+03	1.50E+03	6.68E+03
382	Employment services	0.00E+00	5.38E+03	4.79E+02	5.86E+03
383	Travel arrangement and reservation services	0.00E+00	5.01E+02	1.18E+02	6.20E+02
384	Office administrative services	0.00E+00	2.85E+03	2.50E+02	3.10E+03
386	Business support services	0.00E+00	1.70E+03	3.61E+02	2.06E+03
387	Investigation and security services	0.00E+00	2.27E+03	5.69E+02	2.84E+03
388	Services to buildings and dwellings	0.00E+00	8.02E+03	2.56E+03	1.06E+04
389	Other support services	0.00E+00	2.08E+03	1.57E+02	2.24E+03
390	Waste management and remediation services	0.00E+00	1.09E+03	1.25E+03	2.34E+03
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.43E+03	1.43E+03
393	Other private educational services	0.00E+00	2.27E+01	1.59E+03	1.61E+03
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	5.41E-02	1.55E+04	1.55E+04
395	Home health care services	0.00E+00	0.00E+00	7.91E+02	7.91E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	5.21E+00	7.24E+03	7.24E+03
397	Private hospitals	0.00E+00	5.19E-02	1.10E+04	1.10E+04
398	Nursing and residential care facilities	0.00E+00	0.00E+00	6.52E+03	6.52E+03
399	Child day care services	0.00E+00	0.00E+00	1.93E+03	1.93E+03
400	Individual and family services	0.00E+00	0.00E+00	1.43E+03	1.43E+03
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.02E-04	1.25E+03	1.25E+03
402	Performing arts companies	0.00E+00	2.51E+01	2.44E+01	4.95E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 1 Construction		Output			
ID	Description	Direct	Indirect	Induced	Total
403	Spectator sports companies	0.00E+00	1.08E+03	1.07E+03	2.15E+03
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	7.86E+01	8.97E+01	1.68E+02
405	Independent artists, writers, and performers	0.00E+00	1.48E+03	3.29E+02	1.81E+03
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.18E+02	1.18E+02
407	Fitness and recreational sports centers	0.00E+00	4.21E+02	5.17E+02	9.37E+02
408	Bowling centers	0.00E+00	4.31E-01	3.07E+01	3.11E+01
409	Amusement parks, arcades, and gambling industries	0.00E+00	2.48E+00	1.45E+03	1.46E+03
410	Other amusement and recreation industries	0.00E+00	4.01E+02	7.75E+02	1.18E+03
411	Hotels and motels, including casino hotels	0.00E+00	1.19E+02	1.08E+02	2.27E+02
412	Other accommodations	0.00E+00	1.16E-01	1.38E-01	2.55E-01
413	Food services and drinking places	0.00E+00	1.55E+04	1.86E+04	3.42E+04
414	Automotive repair and maintenance, except car washes	0.00E+00	2.28E+03	2.79E+03	5.07E+03
415	Car washes	0.00E+00	6.67E+01	2.50E+02	3.17E+02
416	Electronic and precision equipment repair and maintenance	0.00E+00	2.95E+03	3.41E+02	3.29E+03
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.88E+03	4.14E+02	2.29E+03
418	Personal and household goods repair and maintenance	0.00E+00	3.63E+02	2.45E+02	6.08E+02
419	Personal care services	0.00E+00	2.65E-04	1.32E+03	1.32E+03
420	Death care services	0.00E+00	0.00E+00	5.26E+01	5.26E+01
421	Dry-cleaning and laundry services	0.00E+00	1.93E+02	4.43E+02	6.36E+02
422	Other personal services	0.00E+00	5.36E+03	2.04E+03	7.39E+03
423	Religious organizations	0.00E+00	0.00E+00	1.61E+03	1.61E+03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.27E+00	2.20E+03	2.20E+03
425	Civic, social, professional, and similar organizations	0.00E+00	2.46E+03	4.36E+03	6.82E+03
426	Private household operations	0.00E+00	0.00E+00	9.87E+02	9.87E+02
427	US Postal Service	0.00E+00	2.66E+03	1.22E+03	3.88E+03
429	Other Federal Government enterprises	0.00E+00	3.24E+02	5.88E+02	9.12E+02
430	State and local government passenger transit	0.00E+00	6.35E+02	3.81E+02	1.02E+03
431	State and local government electric utilities	0.00E+00	3.24E+02	7.39E+02	1.06E+03
432	Other state and local government enterprises	0.00E+00	2.30E+03	6.94E+03	9.23E+03

Year 2 Construction – Low Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.05E+02	3.60E+01	3.77E+01	1.79E+02
1	Oilseed farming	0.00E+00	1.74E-04	7.79E-04	9.53E-04
2	Grain farming	0.00E+00	5.38E-03	2.04E-02	2.57E-02
3	Vegetable and melon farming	0.00E+00	1.49E-04	1.77E-02	1.78E-02
4	Fruit farming	0.00E+00	2.27E-04	2.18E-02	2.20E-02
5	Tree nut farming	0.00E+00	9.94E-04	1.20E-02	1.30E-02
6	Greenhouse, nursery, and floriculture production	0.00E+00	3.80E-05	4.79E-04	5.17E-04
9	Sugarcane and sugar beet farming	0.00E+00	5.76E-05	8.93E-05	1.47E-04
10	All other crop farming	0.00E+00	9.62E-02	3.06E-03	9.92E-02
11	Cattle ranching and farming	0.00E+00	1.44E-04	4.91E-04	6.36E-04
12	Dairy cattle and milk production	0.00E+00	2.98E-04	1.71E-03	2.01E-03
13	Poultry and egg production	0.00E+00	1.17E-06	1.74E-04	1.76E-04
14	Animal production, except cattle and poultry and eggs	0.00E+00	5.34E-04	8.39E-03	8.93E-03
15	Forestry, forest products, and timber tract production	0.00E+00	5.16E-03	1.81E-04	5.35E-03
18	Commercial hunting and trapping	0.00E+00	0.00E+00	3.98E-04	3.98E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
19	Support activities for agriculture and forestry	0.00E+00	8.76E-02	6.37E-02	1.51E-01
20	Extraction of oil and natural gas	0.00E+00	2.35E-02	1.26E-02	3.61E-02
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	7.11E-02	3.13E-03	7.42E-02
29	Support activities for oil and gas operations	0.00E+00	2.76E-03	7.01E-04	3.46E-03
31	Electric power generation, transmission, and distribution	0.00E+00	6.54E-02	8.95E-02	1.55E-01
32	Natural gas distribution	0.00E+00	1.25E-03	1.49E-03	2.74E-03
33	Water, sewage and other treatment and delivery systems	0.00E+00	2.16E-04	6.10E-04	8.27E-04
36	Construction of other new nonresidential structures	9.62E+01	0.00E+00	0.00E+00	9.62E+01
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.42E-01	2.14E-01	5.56E-01
40	Maintenance and repair construction of residential structures	0.00E+00	4.36E-03	1.01E-01	1.06E-01
41	Dog and cat food manufacturing	0.00E+00	9.60E-08	8.62E-05	8.63E-05
42	Other animal food manufacturing	0.00E+00	1.18E-04	2.16E-03	2.28E-03
43	Flour milling and malt manufacturing	0.00E+00	1.25E-04	4.95E-03	5.07E-03
52	Nonchocolate confectionery manufacturing	0.00E+00	8.49E-06	4.20E-04	4.29E-04
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	2.39E-04	8.31E-03	8.55E-03
62	Bread and bakery product manufacturing	0.00E+00	6.64E-05	2.41E-03	2.48E-03
64	Tortilla manufacturing	0.00E+00	2.56E-06	2.18E-03	2.18E-03
69	All other food manufacturing	0.00E+00	1.02E-04	2.23E-03	2.33E-03
70	Soft drink and ice manufacturing	0.00E+00	9.35E-04	5.62E-02	5.72E-02
71	Breweries	0.00E+00	5.74E-05	4.17E-03	4.23E-03
72	Wineries	0.00E+00	1.24E-04	5.82E-03	5.94E-03
76	Broadwoven fabric mills	0.00E+00	3.57E-05	1.96E-04	2.32E-04
80	Textile and fabric finishing mills	0.00E+00	4.70E-04	1.04E-03	1.51E-03
84	Textile bag and canvas mills	0.00E+00	5.80E-05	1.73E-05	7.54E-05
85	All other textile product mills	0.00E+00	1.34E-03	4.25E-04	1.76E-03
87	Cut and sew apparel contractors	0.00E+00	2.19E-03	3.54E-03	5.73E-03
91	Apparel accessories and other apparel manufacturing	0.00E+00	2.65E-06	1.08E-04	1.11E-04
93	Footwear manufacturing	0.00E+00	1.72E-14	4.12E-04	4.12E-04
95	Sawmills and wood preservation	0.00E+00	2.48E-01	4.86E-03	2.53E-01
97	Engineered wood member and truss manufacturing	0.00E+00	8.37E-03	1.54E-04	8.53E-03
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.01E-02	2.34E-04	1.03E-02
100	Wood container and pallet manufacturing	0.00E+00	8.01E-03	7.93E-03	1.59E-02
101	Manufactured home (mobile home) manufacturing	0.00E+00	8.29E-03	6.23E-05	8.36E-03
103	All other miscellaneous wood product manufacturing	0.00E+00	4.78E-04	3.12E-04	7.90E-04
107	Paperboard container manufacturing	0.00E+00	5.35E-02	1.12E-02	6.47E-02
113	Printing	0.00E+00	7.11E-02	6.08E-02	1.32E-01
114	Support activities for printing	0.00E+00	6.87E-05	2.36E-05	9.23E-05
130	Fertilizer manufacturing	0.00E+00	3.16E-02	1.51E-03	3.31E-02
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.98E-03	4.02E-03	6.00E-03
133	Pharmaceutical preparation manufacturing	0.00E+00	2.50E-06	6.68E-04	6.71E-04
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.15E-05	3.32E-05	4.47E-05
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.65E-04	6.36E-04	8.01E-04
140	Printing ink manufacturing	0.00E+00	4.32E-04	1.49E-04	5.81E-04
141	All other chemical product and preparation manufacturing	0.00E+00	9.75E-05	2.58E-05	1.23E-04
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.02E-03	2.85E-04	1.30E-03
145	Laminated plastics plate, sheet (except packaging), and	0.00E+00	2.09E-03	3.77E-04	2.46E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
	shape manufacturing				
149	Other plastics product manufacturing	0.00E+00	1.05E-02	1.24E-03	1.18E-02
150	Tire manufacturing	0.00E+00	8.81E-04	6.74E-04	1.56E-03
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.40E-01	3.06E-03	2.43E-01
163	Other concrete product manufacturing	0.00E+00	4.59E-01	6.92E-03	4.66E-01
167	Ground or treated mineral and earth manufacturing	0.00E+00	4.84E-03	2.10E-04	5.05E-03
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.21E-01	4.56E-04	1.22E-01
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.08E-01	5.44E-04	1.08E-01
187	Ornamental and architectural metal products manufacturing	0.00E+00	9.15E-02	1.67E-03	9.32E-02
194	Spring and wire product manufacturing	0.00E+00	5.75E-03	2.82E-04	6.03E-03
195	Machine shops	0.00E+00	1.54E-03	8.34E-05	1.63E-03
197	Coating, engraving, heat treating and allied activities	0.00E+00	3.08E-04	1.57E-05	3.24E-04
198	Valve and fittings other than plumbing manufacturing	0.00E+00	7.53E-03	1.93E-04	7.73E-03
203	Farm machinery and equipment manufacturing	0.00E+00	4.76E-04	4.18E-05	5.18E-04
205	Construction machinery manufacturing	0.00E+00	8.38E-05	5.92E-07	8.44E-05
206	Mining and oil and gas field machinery manufacturing	0.00E+00	6.75E-05	4.80E-06	7.23E-05
207	Other industrial machinery manufacturing	0.00E+00	1.08E-05	1.33E-05	2.41E-05
208	Plastics and rubber industry machinery manufacturing	0.00E+00	4.60E-06	1.40E-06	6.00E-06
211	Optical instrument and lens manufacturing	0.00E+00	2.13E-06	1.98E-06	4.10E-06
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	6.95E-06	1.43E-06	8.38E-06
226	Pump and pumping equipment manufacturing	0.00E+00	1.62E-04	4.83E-06	1.67E-04
228	Material handling equipment manufacturing	0.00E+00	6.91E-04	5.79E-06	6.97E-04
233	Fluid power process machinery manufacturing	0.00E+00	1.62E-04	1.04E-05	1.72E-04
234	Electronic computer manufacturing	0.00E+00	2.07E-06	8.86E-06	1.09E-05
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	1.61E-04	1.54E-04	3.15E-04
237	Telephone apparatus manufacturing	0.00E+00	4.09E-06	4.98E-06	9.07E-06
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	5.84E-06	8.10E-06	1.39E-05
240	Audio and video equipment manufacturing	0.00E+00	1.09E-05	7.60E-06	1.85E-05
241	Electron tube manufacturing	0.00E+00	7.28E-06	4.04E-06	1.13E-05
243	Semiconductor and related device manufacturing	0.00E+00	2.07E-05	9.17E-06	2.99E-05
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	6.66E-05	3.02E-05	9.68E-05
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.20E-06	3.20E-06	5.41E-06
250	Automatic environmental control manufacturing	0.00E+00	1.12E-04	3.83E-06	1.16E-04
251	Industrial process variable instruments manufacturing	0.00E+00	2.95E-05	9.91E-06	3.95E-05
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	2.06E-05	2.10E-05	4.17E-05
253	Electricity and signal testing instruments manufacturing	0.00E+00	1.99E-05	1.10E-06	2.10E-05
269	Relay and industrial control manufacturing	0.00E+00	3.06E-05	3.99E-06	3.46E-05
273	Wiring device manufacturing	0.00E+00	2.34E-02	4.25E-04	2.38E-02
279	Motor vehicle body manufacturing	0.00E+00	1.26E-04	2.32E-05	1.49E-04
280	Truck trailer manufacturing	0.00E+00	8.38E-05	3.32E-06	8.71E-05
282	Travel trailer and camper manufacturing	0.00E+00	1.26E-03	1.43E-03	2.69E-03
283	Motor vehicle parts manufacturing	0.00E+00	3.73E-03	6.44E-04	4.37E-03
284	Aircraft manufacturing	0.00E+00	1.11E-04	2.44E-06	1.13E-04
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	9.23E-07	8.64E-06	9.56E-06
294	All other transportation equipment manufacturing	0.00E+00	2.35E-05	9.88E-05	1.22E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	3.00E-04	1.26E-04	4.25E-04
297	Nonupholstered wood household furniture manufacturing	0.00E+00	2.89E-06	5.28E-05	5.57E-05
300	Office Furniture	0.00E+00	5.30E-05	3.62E-04	4.15E-04
304	Blind and shade manufacturing	0.00E+00	1.14E-03	9.94E-04	2.14E-03
312	Doll, toy, and game manufacturing	0.00E+00	5.15E-06	6.42E-04	6.48E-04
313	Office supplies (except paper) manufacturing	0.00E+00	2.08E-05	2.65E-05	4.73E-05
317	All other miscellaneous manufacturing	0.00E+00	2.14E-04	9.37E-04	1.15E-03
319	Wholesale trade businesses	0.00E+00	1.86E+00	1.65E+00	3.51E+00
320	Retail Stores - Motor vehicle and parts	0.00E+00	3.34E-01	8.58E-01	1.19E+00
321	Retail Stores - Furniture and home furnishings	0.00E+00	5.01E-02	2.69E-01	3.19E-01
322	Retail Stores - Electronics and appliances	0.00E+00	3.57E-02	1.58E-01	1.94E-01
323	Retail Stores - Building material and garden supply	0.00E+00	2.58E-01	4.66E-01	7.24E-01
324	Retail Stores - Food and beverage	0.00E+00	3.13E-01	1.35E+00	1.67E+00
325	Retail Stores - Health and personal care	0.00E+00	1.04E-01	4.39E-01	5.43E-01
326	Retail Stores - Gasoline stations	0.00E+00	5.02E-02	1.69E-01	2.20E-01
327	Retail Stores - Clothing and clothing accessories	0.00E+00	6.79E-02	3.20E-01	3.88E-01
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	8.45E-02	3.91E-01	4.76E-01
329	Retail Stores - General merchandise	0.00E+00	3.69E-01	1.61E+00	1.97E+00
330	Retail Stores - Miscellaneous	0.00E+00	1.12E-01	5.06E-01	6.19E-01
331	Retail Nonstores - Direct and electronic sales	0.00E+00	8.97E-02	4.83E-01	5.73E-01
332	Transport by air	0.00E+00	2.62E-04	4.46E-04	7.09E-04
333	Transport by rail	0.00E+00	1.47E-02	3.15E-03	1.79E-02
334	Transport by water	0.00E+00	9.69E-04	6.32E-04	1.60E-03
335	Transport by truck	0.00E+00	1.14E+00	3.04E-01	1.45E+00
336	Transit and ground passenger transportation	0.00E+00	8.28E-02	1.32E-01	2.15E-01
337	Transport by pipeline	0.00E+00	2.63E-03	1.02E-03	3.65E-03
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.34E-01	9.40E-02	3.28E-01
339	Couriers and messengers	0.00E+00	1.88E-01	1.35E-01	3.22E-01
340	Warehousing and storage	0.00E+00	1.41E-01	1.64E-01	3.05E-01
341	Newspaper publishers	0.00E+00	3.96E-02	7.03E-02	1.10E-01
342	Periodical publishers	0.00E+00	3.26E-03	2.98E-03	6.24E-03
343	Book publishers	0.00E+00	1.77E-05	2.00E-04	2.17E-04
344	Directory, mailing list, and other publishers	0.00E+00	2.19E-03	2.43E-03	4.62E-03
345	Software publishers	0.00E+00	5.11E-04	1.14E-04	6.25E-04
346	Motion picture and video industries	0.00E+00	2.40E-02	4.06E-02	6.46E-02
347	Sound recording industries	0.00E+00	1.51E-04	2.25E-03	2.40E-03
348	Radio and television broadcasting	0.00E+00	1.29E-01	1.19E-01	2.48E-01
349	Cable and other subscription programming	0.00E+00	7.86E-03	6.68E-03	1.45E-02
350	Internet publishing and broadcasting	0.00E+00	1.75E-02	1.40E-02	3.15E-02
351	Telecommunications	0.00E+00	5.38E-01	3.25E-01	8.63E-01
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	9.38E-03	1.49E-02	2.42E-02
353	Other information services	0.00E+00	4.23E-04	6.33E-04	1.06E-03
354	Monetary authorities and depository credit intermediation activities	0.00E+00	5.61E-01	5.79E-01	1.14E+00
355	Nondepository credit intermediation and related activities	0.00E+00	3.87E-01	7.64E-01	1.15E+00
356	Securities, commodity contracts, investments, and related activities	0.00E+00	3.58E-01	1.11E+00	1.47E+00
357	Insurance carriers	0.00E+00	5.63E-02	1.58E-01	2.14E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
358	Insurance agencies, brokerages, and related activities	0.00E+00	5.52E-02	1.40E-01	1.95E-01
359	Funds, trusts, and other financial vehicles	0.00E+00	3.18E-03	1.87E-01	1.90E-01
360	Real estate establishments	0.00E+00	1.05E+00	1.94E+00	2.99E+00
362	Automotive equipment rental and leasing	0.00E+00	1.47E-01	1.11E-01	2.58E-01
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.12E-02	4.39E-02	5.51E-02
364	Video tape and disc rental	0.00E+00	0.00E+00	4.02E-02	4.02E-02
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	8.82E-01	1.90E-02	9.01E-01
366	Lessors of nonfinancial intangible assets	0.00E+00	4.39E-03	1.30E-03	5.69E-03
367	Legal services	0.00E+00	4.14E-01	1.77E-01	5.91E-01
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	5.57E-01	1.52E-01	7.09E-01
369	Architectural, engineering, and related services	7.18E+00	1.23E+01	1.81E-01	1.97E+01
370	Specialized design services	0.00E+00	1.10E-01	1.68E-02	1.26E-01
371	Custom computer programming services	0.00E+00	5.71E-02	1.31E-02	7.02E-02
372	Computer systems design services	0.00E+00	8.10E-02	2.08E-02	1.02E-01
373	Other computer related services, including facilities management	0.00E+00	2.92E-02	5.15E-03	3.44E-02
374	Management, scientific, and technical consulting services	0.00E+00	9.28E-01	3.33E-01	1.26E+00
375	Environmental and other technical consulting services	1.91E+00	2.04E-01	3.99E-02	2.15E+00
376	Scientific research and development services	0.00E+00	1.62E-01	8.08E-02	2.43E-01
377	Advertising and related services	0.00E+00	1.58E-01	1.40E-01	2.98E-01
378	Photographic services	0.00E+00	3.70E-02	2.33E-02	6.03E-02
379	Veterinary services	0.00E+00	2.70E-04	1.88E-01	1.88E-01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	6.26E-02	1.02E-02	7.28E-02
381	Management of companies and enterprises	0.00E+00	3.38E-01	1.39E-01	4.77E-01
382	Employment services	0.00E+00	8.52E-01	2.21E-01	1.07E+00
383	Travel arrangement and reservation services	0.00E+00	2.22E-02	1.41E-02	3.63E-02
384	Office administrative services	0.00E+00	1.49E-01	3.74E-02	1.86E-01
386	Business support services	0.00E+00	2.47E-01	1.10E-01	3.58E-01
387	Investigation and security services	0.00E+00	4.82E-01	2.81E-01	7.63E-01
388	Services to buildings and dwellings	0.00E+00	1.54E+00	6.75E-01	2.22E+00
389	Other support services	0.00E+00	7.63E-02	2.58E-02	1.02E-01
390	Waste management and remediation services	0.00E+00	1.37E-01	1.00E-01	2.37E-01
391	Private elementary and secondary schools	0.00E+00	0.00E+00	6.49E-01	6.49E-01
393	Other private educational services	0.00E+00	1.06E-02	6.66E-01	6.76E-01
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	2.99E-06	1.82E+00	1.82E+00
395	Home health care services	0.00E+00	0.00E+00	1.94E-01	1.94E-01
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	2.53E-04	7.46E-01	7.46E-01
397	Private hospitals	0.00E+00	2.50E-06	1.13E+00	1.13E+00
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.76E+00	1.76E+00
399	Child day care services	0.00E+00	0.00E+00	7.05E-01	7.05E-01
400	Individual and family services	0.00E+00	0.00E+00	4.86E-01	4.86E-01
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	6.95E-07	4.18E-01	4.18E-01
402	Performing arts companies	0.00E+00	2.71E-03	1.75E-02	2.02E-02
403	Spectator sports companies	0.00E+00	2.22E-01	4.91E-01	7.12E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	8.33E-03	2.89E-02	3.73E-02
405	Independent artists, writers, and performers	0.00E+00	4.89E-02	2.54E-02	7.43E-02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.72E-02	1.72E-02
407	Fitness and recreational sports centers	0.00E+00	8.29E-02	2.25E-01	3.08E-01
408	Bowling centers	0.00E+00	5.98E-05	9.19E-03	9.25E-03
409	Amusement parks, arcades, and gambling industries	0.00E+00	1.57E-04	2.30E-01	2.30E-01
410	Other amusement and recreation industries	0.00E+00	2.68E-02	1.68E-01	1.94E-01
411	Hotels and motels, including casino hotels	0.00E+00	9.26E-03	1.69E-02	2.61E-02
412	Other accommodations	0.00E+00	1.20E-05	2.90E-05	4.10E-05
413	Food services and drinking places	0.00E+00	1.31E+00	4.42E+00	5.73E+00
414	Automotive repair and maintenance, except car washes	0.00E+00	1.19E+00	4.25E-01	1.61E+00
415	Car washes	0.00E+00	7.45E-02	1.04E-01	1.78E-01
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.44E-01	3.16E-02	1.75E-01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	9.53E-01	6.47E-02	1.02E+00
418	Personal and household goods repair and maintenance	0.00E+00	7.29E-02	2.30E-02	9.59E-02
419	Personal care services	0.00E+00	1.30E-06	3.20E-01	3.20E-01
420	Death care services	0.00E+00	0.00E+00	1.43E-02	1.43E-02
421	Dry-cleaning and laundry services	0.00E+00	1.46E-02	9.23E-02	1.07E-01
422	Other personal services	0.00E+00	4.40E-02	2.07E-01	2.51E-01
423	Religious organizations	0.00E+00	0.00E+00	1.75E-01	1.75E-01
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.04E-04	2.74E-01	2.74E-01
425	Civic, social, professional, and similar organizations	0.00E+00	3.50E-01	6.05E-01	9.55E-01
426	Private household operations	0.00E+00	0.00E+00	1.44E+00	1.44E+00
427	US Postal Service	0.00E+00	1.73E-01	1.75E-01	3.48E-01
429	Other Federal Government enterprises	0.00E+00	9.14E-03	2.36E-02	3.27E-02
430	State and local government passenger transit	0.00E+00	7.14E-02	1.14E-01	1.85E-01
431	State and local government electric utilities	0.00E+00	2.15E-02	2.94E-02	5.09E-02
432	Other state and local government enterprises	0.00E+00	1.28E-01	3.84E-01	5.13E-01

Year 2 Construction – Low Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
0	Total	7.92E+06	1.95E+06	1.68E+06	1.16E+07
1	Oilseed farming	0.00E+00	3.28E+00	1.47E+01	1.80E+01
2	Grain farming	0.00E+00	5.76E+01	2.18E+02	2.76E+02
3	Vegetable and melon farming	0.00E+00	3.13E+01	3.71E+03	3.74E+03
4	Fruit farming	0.00E+00	4.04E+01	3.88E+03	3.92E+03
5	Tree nut farming	0.00E+00	7.40E+01	8.96E+02	9.70E+02
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.06E+01	1.33E+02	1.44E+02
9	Sugarcane and sugar beet farming	0.00E+00	6.27E-01	9.71E-01	1.60E+00
10	All other crop farming	0.00E+00	9.28E+03	2.96E+02	9.58E+03
11	Cattle ranching and farming	0.00E+00	3.11E+00	1.06E+01	1.37E+01
12	Dairy cattle and milk production	0.00E+00	5.17E+00	2.97E+01	3.48E+01
13	Poultry and egg production	0.00E+00	2.47E-01	3.67E+01	3.70E+01
14	Animal production, except cattle and poultry and eggs	0.00E+00	1.12E+01	1.76E+02	1.87E+02
15	Forestry, forest products, and timber tract production	0.00E+00	3.72E+02	1.31E+01	3.85E+02
18	Commercial hunting and trapping	0.00E+00	0.00E+00	9.72E+00	9.72E+00
19	Support activities for agriculture and forestry	0.00E+00	3.70E+03	2.69E+03	6.38E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	1.34E+03	7.20E+02	2.06E+03
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	4.82E+03	2.12E+02	5.03E+03
29	Support activities for oil and gas operations	0.00E+00	2.08E+02	5.26E+01	2.60E+02
31	Electric power generation, transmission, and distribution	0.00E+00	1.26E+04	1.72E+04	2.98E+04
32	Natural gas distribution	0.00E+00	1.98E+02	2.35E+02	4.34E+02
33	Water, sewage and other treatment and delivery systems	0.00E+00	1.66E+01	4.67E+01	6.33E+01
36	Construction of other new nonresidential structures	7.40E+06	0.00E+00	0.00E+00	7.40E+06
39	Maintenance and repair construction of nonresidential structures	0.00E+00	2.63E+04	1.65E+04	4.28E+04
40	Maintenance and repair construction of residential structures	0.00E+00	2.59E+02	6.03E+03	6.29E+03
41	Dog and cat food manufacturing	0.00E+00	1.11E-02	9.97E+00	9.98E+00
42	Other animal food manufacturing	0.00E+00	9.76E+00	1.79E+02	1.88E+02
43	Flour milling and malt manufacturing	0.00E+00	8.78E+00	3.47E+02	3.56E+02
52	Nonchocolate confectionery manufacturing	0.00E+00	5.63E-01	2.78E+01	2.84E+01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.51E+01	5.24E+02	5.39E+02
62	Bread and bakery product manufacturing	0.00E+00	8.28E-01	3.01E+01	3.09E+01
64	Tortilla manufacturing	0.00E+00	3.11E-02	2.64E+01	2.65E+01
69	All other food manufacturing	0.00E+00	5.87E+00	1.28E+02	1.34E+02
70	Soft drink and ice manufacturing	0.00E+00	8.23E+01	4.95E+03	5.03E+03
71	Breweries	0.00E+00	6.84E+00	4.96E+02	5.03E+02
72	Wineries	0.00E+00	1.10E+01	5.20E+02	5.31E+02
76	Broadwoven fabric mills	0.00E+00	1.36E+00	7.46E+00	8.82E+00
80	Textile and fabric finishing mills	0.00E+00	1.74E+01	3.87E+01	5.61E+01
84	Textile bag and canvas mills	0.00E+00	2.86E+00	8.55E-01	3.72E+00
85	All other textile product mills	0.00E+00	5.11E+01	1.62E+01	6.74E+01
87	Cut and sew apparel contractors	0.00E+00	5.35E+01	8.65E+01	1.40E+02
91	Apparel accessories and other apparel manufacturing	0.00E+00	6.22E-02	2.54E+00	2.60E+00
93	Footwear manufacturing	0.00E+00	7.79E-10	1.87E+01	1.87E+01
95	Sawmills and wood preservation	0.00E+00	1.44E+04	2.82E+02	1.47E+04
97	Engineered wood member and truss manufacturing	0.00E+00	3.99E+02	7.32E+00	4.06E+02
99	Wood windows and doors and millwork manufacturing	0.00E+00	4.64E+02	1.08E+01	4.75E+02
100	Wood container and pallet manufacturing	0.00E+00	4.35E+02	4.31E+02	8.65E+02
101	Manufactured home (mobile home) manufacturing	0.00E+00	3.71E+02	2.79E+00	3.74E+02
103	All other miscellaneous wood product manufacturing	0.00E+00	2.06E+01	1.34E+01	3.40E+01
107	Paperboard container manufacturing	0.00E+00	3.47E+03	7.30E+02	4.20E+03
113	Printing	0.00E+00	3.75E+03	3.21E+03	6.96E+03
114	Support activities for printing	0.00E+00	3.58E+00	1.23E+00	4.81E+00
130	Fertilizer manufacturing	0.00E+00	3.63E+03	1.74E+02	3.81E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	2.57E+02	5.24E+02	7.81E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	1.56E-01	4.17E+01	4.19E+01
134	In-vitro diagnostic substance manufacturing	0.00E+00	5.53E-01	1.60E+00	2.15E+00
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.85E+01	7.15E+01	9.00E+01
140	Printing ink manufacturing	0.00E+00	5.41E+01	1.87E+01	7.28E+01
141	All other chemical product and preparation manufacturing	0.00E+00	1.26E+01	3.34E+00	1.59E+01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	8.32E+01	2.33E+01	1.07E+02
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.68E+02	3.04E+01	1.99E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	5.82E+02	6.87E+01	6.51E+02
150	Tire manufacturing	0.00E+00	5.58E+01	4.27E+01	9.84E+01
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.23E+04	2.84E+02	2.26E+04
163	Other concrete product manufacturing	0.00E+00	3.98E+04	6.00E+02	4.04E+04
167	Ground or treated mineral and earth manufacturing	0.00E+00	5.27E+02	2.29E+01	5.50E+02
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.02E+04	3.81E+01	1.02E+04
186	Plate work and fabricated structural product manufacturing	0.00E+00	8.11E+03	4.09E+01	8.15E+03
187	Ornamental and architectural metal products manufacturing	0.00E+00	4.89E+03	8.89E+01	4.97E+03
194	Spring and wire product manufacturing	0.00E+00	3.26E+02	1.60E+01	3.42E+02
195	Machine shops	0.00E+00	9.80E+01	5.30E+00	1.03E+02
197	Coating, engraving, heat treating and allied activities	0.00E+00	1.65E+01	8.41E-01	1.73E+01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	5.83E+02	1.50E+01	5.98E+02
203	Farm machinery and equipment manufacturing	0.00E+00	2.79E+01	2.45E+00	3.03E+01
205	Construction machinery manufacturing	0.00E+00	6.44E+00	4.55E-02	6.48E+00
206	Mining and oil and gas field machinery manufacturing	0.00E+00	8.35E+00	5.95E-01	8.94E+00
207	Other industrial machinery manufacturing	0.00E+00	8.90E-01	1.10E+00	1.98E+00
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.50E-01	4.57E-02	1.96E-01
211	Optical instrument and lens manufacturing	0.00E+00	9.62E-02	8.94E-02	1.86E-01
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	2.11E-01	4.33E-02	2.54E-01
226	Pump and pumping equipment manufacturing	0.00E+00	9.52E+00	2.83E-01	9.80E+00
228	Material handling equipment manufacturing	0.00E+00	3.18E+01	2.66E-01	3.20E+01
233	Fluid power process machinery manufacturing	0.00E+00	1.03E+01	6.66E-01	1.10E+01
234	Electronic computer manufacturing	0.00E+00	5.66E-01	2.43E+00	2.99E+00
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	2.63E+01	2.52E+01	5.16E+01
237	Telephone apparatus manufacturing	0.00E+00	5.27E-01	6.42E-01	1.17E+00
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	4.34E-01	6.03E-01	1.04E+00
240	Audio and video equipment manufacturing	0.00E+00	8.46E-01	5.88E-01	1.43E+00
241	Electron tube manufacturing	0.00E+00	7.63E-01	4.23E-01	1.19E+00
243	Semiconductor and related device manufacturing	0.00E+00	3.05E+00	1.35E+00	4.40E+00
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	3.58E+00	1.62E+00	5.20E+00
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.03E-01	2.95E-01	4.98E-01
250	Automatic environmental control manufacturing	0.00E+00	6.80E+00	2.33E-01	7.03E+00
251	Industrial process variable instruments manufacturing	0.00E+00	1.90E+00	6.39E-01	2.54E+00
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.24E+00	1.26E+00	2.51E+00
253	Electricity and signal testing instruments manufacturing	0.00E+00	2.16E+00	1.19E-01	2.28E+00
269	Relay and industrial control manufacturing	0.00E+00	2.00E+00	2.61E-01	2.27E+00
273	Wiring device manufacturing	0.00E+00	1.72E+03	3.13E+01	1.75E+03
279	Motor vehicle body manufacturing	0.00E+00	1.26E+01	2.32E+00	1.49E+01
280	Truck trailer manufacturing	0.00E+00	4.74E+00	1.88E-01	4.93E+00
282	Travel trailer and camper manufacturing	0.00E+00	5.08E+01	5.75E+01	1.08E+02
283	Motor vehicle parts manufacturing	0.00E+00	1.15E+02	1.99E+01	1.35E+02
284	Aircraft manufacturing	0.00E+00	7.30E+00	1.60E-01	7.46E+00
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	2.59E-02	2.43E-01	2.69E-01
294	All other transportation equipment manufacturing	0.00E+00	1.33E+00	5.58E+00	6.91E+00
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	1.72E+01	7.19E+00	2.43E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	1.49E-01	2.73E+00	2.88E+00
300	Office Furniture	0.00E+00	2.31E+00	1.58E+01	1.81E+01
304	Blind and shade manufacturing	0.00E+00	4.30E+01	3.74E+01	8.04E+01
312	Doll, toy, and game manufacturing	0.00E+00	1.10E+00	1.38E+02	1.39E+02
313	Office supplies (except paper) manufacturing	0.00E+00	1.74E+00	2.22E+00	3.97E+00
317	All other miscellaneous manufacturing	0.00E+00	1.96E+01	8.60E+01	1.06E+02
319	Wholesale trade businesses	0.00E+00	1.00E+05	8.92E+04	1.89E+05
320	Retail Stores - Motor vehicle and parts	0.00E+00	2.14E+04	5.50E+04	7.64E+04
321	Retail Stores - Furniture and home furnishings	0.00E+00	2.34E+03	1.26E+04	1.49E+04
322	Retail Stores - Electronics and appliances	0.00E+00	1.10E+03	4.89E+03	6.00E+03
323	Retail Stores - Building material and garden supply	0.00E+00	1.28E+04	2.31E+04	3.60E+04
324	Retail Stores - Food and beverage	0.00E+00	1.52E+04	6.54E+04	8.06E+04
325	Retail Stores - Health and personal care	0.00E+00	4.95E+03	2.10E+04	2.59E+04
326	Retail Stores - Gasoline stations	0.00E+00	6.56E+03	2.21E+04	2.87E+04
327	Retail Stores - Clothing and clothing accessories	0.00E+00	1.75E+03	8.23E+03	9.97E+03
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	2.09E+03	9.69E+03	1.18E+04
329	Retail Stores - General merchandise	0.00E+00	1.26E+04	5.46E+04	6.71E+04
330	Retail Stores - Miscellaneous	0.00E+00	2.94E+03	1.33E+04	1.62E+04
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.23E+03	6.61E+03	7.84E+03
332	Transport by air	0.00E+00	3.77E-01	6.42E-01	1.02E+00
333	Transport by rail	0.00E+00	1.56E+03	3.33E+02	1.89E+03
334	Transport by water	0.00E+00	9.09E+01	5.94E+01	1.50E+02
335	Transport by truck	0.00E+00	9.25E+04	2.47E+04	1.17E+05
336	Transit and ground passenger transportation	0.00E+00	4.17E+03	6.65E+03	1.08E+04
337	Transport by pipeline	0.00E+00	2.99E+02	1.16E+02	4.16E+02
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	1.61E+04	6.45E+03	2.25E+04
339	Couriers and messengers	0.00E+00	1.18E+04	8.48E+03	2.03E+04
340	Warehousing and storage	0.00E+00	7.83E+03	9.14E+03	1.70E+04
341	Newspaper publishers	0.00E+00	1.96E+03	3.48E+03	5.45E+03
342	Periodical publishers	0.00E+00	2.30E+02	2.11E+02	4.41E+02
343	Book publishers	0.00E+00	1.06E+00	1.20E+01	1.31E+01
344	Directory, mailing list, and other publishers	0.00E+00	1.50E+02	1.67E+02	3.17E+02
345	Software publishers	0.00E+00	4.86E+01	1.08E+01	5.94E+01
346	Motion picture and video industries	0.00E+00	4.84E+02	8.17E+02	1.30E+03
347	Sound recording industries	0.00E+00	9.50E+00	1.42E+02	1.51E+02
348	Radio and television broadcasting	0.00E+00	8.69E+03	8.04E+03	1.67E+04
349	Cable and other subscription programming	0.00E+00	2.27E+02	1.93E+02	4.20E+02
350	Internet publishing and broadcasting	0.00E+00	1.77E+03	1.42E+03	3.18E+03
351	Telecommunications	0.00E+00	3.89E+04	2.35E+04	6.23E+04
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	2.96E+02	4.70E+02	7.66E+02
353	Other information services	0.00E+00	1.73E+01	2.60E+01	4.33E+01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	2.67E+04	2.76E+04	5.43E+04
355	Nondepository credit intermediation and related activities	0.00E+00	2.54E+04	5.02E+04	7.56E+04
356	Securities, commodity contracts, investments, and related activities	0.00E+00	2.34E+03	7.27E+03	9.61E+03
357	Insurance carriers	0.00E+00	4.09E+03	1.15E+04	1.56E+04
358	Insurance agencies, brokerages, and related activities	0.00E+00	4.80E+03	1.21E+04	1.69E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	1.17E+02	6.86E+03	6.97E+03
360	Real estate establishments	0.00E+00	2.36E+04	4.35E+04	6.70E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	Automotive equipment rental and leasing	0.00E+00	8.67E+03	6.51E+03	1.52E+04
363	General and consumer goods rental except video tapes and discs	0.00E+00	4.48E+02	1.76E+03	2.20E+03
364	Video tape and disc rental	0.00E+00	0.00E+00	6.54E+02	6.54E+02
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	7.01E+04	1.51E+03	7.16E+04
366	Lessors of nonfinancial intangible assets	0.00E+00	2.52E+02	7.49E+01	3.27E+02
367	Legal services	0.00E+00	1.55E+04	6.61E+03	2.21E+04
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.98E+04	5.41E+03	2.52E+04
369	Architectural, engineering, and related services	4.17E+05	7.16E+05	1.05E+04	1.14E+06
370	Specialized design services	0.00E+00	2.95E+03	4.53E+02	3.40E+03
371	Custom computer programming services	0.00E+00	4.11E+03	9.42E+02	5.05E+03
372	Computer systems design services	0.00E+00	4.59E+03	1.18E+03	5.78E+03
373	Other computer related services, including facilities management	0.00E+00	1.63E+03	2.87E+02	1.92E+03
374	Management, scientific, and technical consulting services	0.00E+00	5.22E+04	1.87E+04	7.09E+04
375	Environmental and other technical consulting services	1.10E+05	1.17E+04	2.30E+03	1.24E+05
376	Scientific research and development services	0.00E+00	1.05E+04	5.24E+03	1.57E+04
377	Advertising and related services	0.00E+00	4.96E+03	4.39E+03	9.35E+03
378	Photographic services	0.00E+00	1.17E+03	7.38E+02	1.91E+03
379	Veterinary services	0.00E+00	1.14E+01	7.95E+03	7.96E+03
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	3.14E+03	5.09E+02	3.65E+03
381	Management of companies and enterprises	0.00E+00	3.29E+04	1.35E+04	4.64E+04
382	Employment services	0.00E+00	2.32E+04	6.04E+03	2.93E+04
383	Travel arrangement and reservation services	0.00E+00	8.02E+02	5.08E+02	1.31E+03
384	Office administrative services	0.00E+00	1.10E+04	2.76E+03	1.37E+04
386	Business support services	0.00E+00	8.24E+03	3.68E+03	1.19E+04
387	Investigation and security services	0.00E+00	9.99E+03	5.82E+03	1.58E+04
388	Services to buildings and dwellings	0.00E+00	3.72E+04	1.63E+04	5.34E+04
389	Other support services	0.00E+00	2.30E+03	7.78E+02	3.08E+03
390	Waste management and remediation services	0.00E+00	1.02E+04	7.42E+03	1.76E+04
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.47E+04	1.47E+04
393	Other private educational services	0.00E+00	1.62E+02	1.02E+04	1.03E+04
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	2.90E-01	1.77E+05	1.77E+05
395	Home health care services	0.00E+00	0.00E+00	1.00E+04	1.00E+04
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	1.81E+01	5.34E+04	5.34E+04
397	Private hospitals	0.00E+00	2.46E-01	1.11E+05	1.11E+05
398	Nursing and residential care facilities	0.00E+00	0.00E+00	6.63E+04	6.63E+04
399	Child day care services	0.00E+00	0.00E+00	1.53E+04	1.53E+04
400	Individual and family services	0.00E+00	0.00E+00	1.88E+04	1.88E+04
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	2.33E-02	1.40E+04	1.40E+04
402	Performing arts companies	0.00E+00	1.87E+01	1.20E+02	1.39E+02
403	Spectator sports companies	0.00E+00	1.91E+03	4.23E+03	6.14E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	6.12E+01	2.13E+02	2.74E+02
405	Independent artists, writers, and performers	0.00E+00	3.34E+03	1.73E+03	5.07E+03
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.64E+02	1.64E+02
407	Fitness and recreational sports centers	0.00E+00	8.43E+02	2.28E+03	3.13E+03
408	Bowling centers	0.00E+00	6.80E-01	1.05E+02	1.05E+02
409	Amusement parks, arcades, and gambling industries	0.00E+00	2.89E+00	4.25E+03	4.25E+03
410	Other amusement and recreation industries	0.00E+00	7.48E+02	4.67E+03	5.42E+03
411	Hotels and motels, including casino hotels	0.00E+00	2.10E+02	3.83E+02	5.93E+02
412	Other accommodations	0.00E+00	2.68E-01	6.49E-01	9.17E-01
413	Food services and drinking places	0.00E+00	3.06E+04	1.03E+05	1.34E+05
414	Automotive repair and maintenance, except car washes	0.00E+00	7.02E+04	2.51E+04	9.54E+04
415	Car washes	0.00E+00	1.51E+03	2.10E+03	3.61E+03
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.11E+04	2.44E+03	1.36E+04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	5.88E+04	3.99E+03	6.28E+04
418	Personal and household goods repair and maintenance	0.00E+00	3.45E+03	1.09E+03	4.54E+03
419	Personal care services	0.00E+00	4.71E-02	1.16E+04	1.16E+04
420	Death care services	0.00E+00	0.00E+00	4.93E+02	4.93E+02
421	Dry-cleaning and laundry services	0.00E+00	9.67E+02	6.13E+03	7.10E+03
422	Other personal services	0.00E+00	2.31E+03	1.09E+04	1.32E+04
423	Religious organizations	0.00E+00	0.00E+00	5.55E+03	5.55E+03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	8.05E+00	2.12E+04	2.13E+04
425	Civic, social, professional, and similar organizations	0.00E+00	2.49E+04	4.29E+04	6.78E+04
426	Private household operations	0.00E+00	0.00E+00	1.69E+04	1.69E+04
427	US Postal Service	0.00E+00	1.84E+04	1.86E+04	3.71E+04
429	Other Federal Government enterprises	0.00E+00	6.20E+02	1.60E+03	2.22E+03
430	State and local government passenger transit	0.00E+00	5.45E+03	8.69E+03	1.41E+04
431	State and local government electric utilities	0.00E+00	3.25E+03	4.44E+03	7.69E+03
432	Other state and local government enterprises	0.00E+00	1.50E+04	4.47E+04	5.97E+04

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
0	Total	9.68E+06	2.92E+06	3.46E+06	1.61E+07
1	Oilseed farming	0.00E+00	1.07E+01	4.76E+01	5.83E+01
2	Grain farming	0.00E+00	9.77E+01	3.70E+02	4.67E+02
3	Vegetable and melon farming	0.00E+00	3.62E+01	4.29E+03	4.33E+03
4	Fruit farming	0.00E+00	4.34E+01	4.17E+03	4.21E+03
5	Tree nut farming	0.00E+00	7.88E+01	9.54E+02	1.03E+03
6	Greenhouse, nursery, and floriculture production	0.00E+00	9.83E+00	1.24E+02	1.34E+02
9	Sugarcane and sugar beet farming	0.00E+00	1.08E+00	1.67E+00	2.74E+00
10	All other crop farming	0.00E+00	1.08E+04	3.44E+02	1.11E+04
11	Cattle ranching and farming	0.00E+00	5.30E+00	1.80E+01	2.33E+01
12	Dairy cattle and milk production	0.00E+00	2.57E+01	1.48E+02	1.73E+02
13	Poultry and egg production	0.00E+00	3.34E-01	4.97E+01	5.00E+01
14	Animal production, except cattle and poultry and eggs	0.00E+00	2.70E+01	4.25E+02	4.52E+02
15	Forestry, forest products, and timber tract production	0.00E+00	8.30E+02	2.92E+01	8.59E+02
18	Commercial hunting and trapping	0.00E+00	0.00E+00	1.79E+01	1.79E+01
19	Support activities for agriculture and forestry	0.00E+00	3.63E+03	2.64E+03	6.27E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	3.25E+03	1.74E+03	4.99E+03
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	5.86E+03	2.58E+02	6.12E+03
29	Support activities for oil and gas operations	0.00E+00	2.20E+02	5.57E+01	2.76E+02
31	Electric power generation, transmission, and distribution	0.00E+00	4.81E+04	6.58E+04	1.14E+05
32	Natural gas distribution	0.00E+00	6.67E+02	7.91E+02	1.46E+03
33	Water, sewage and other treatment and delivery systems	0.00E+00	4.66E+01	1.32E+02	1.78E+02
36	Construction of other new nonresidential structures	9.14E+06	0.00E+00	0.00E+00	9.14E+06
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.26E+04	2.04E+04	5.30E+04
40	Maintenance and repair construction of residential structures	0.00E+00	3.15E+02	7.32E+03	7.64E+03
41	Dog and cat food manufacturing	0.00E+00	4.95E-02	4.45E+01	4.45E+01
42	Other animal food manufacturing	0.00E+00	2.30E+01	4.21E+02	4.44E+02
43	Flour milling and malt manufacturing	0.00E+00	2.04E+01	8.08E+02	8.28E+02
52	Nonchocolate confectionery manufacturing	0.00E+00	1.00E+00	4.95E+01	5.05E+01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	3.23E+01	1.12E+03	1.15E+03
62	Bread and bakery product manufacturing	0.00E+00	1.90E+00	6.90E+01	7.09E+01
64	Tortilla manufacturing	0.00E+00	1.18E-01	1.00E+02	1.00E+02
69	All other food manufacturing	0.00E+00	9.57E+00	2.09E+02	2.18E+02
70	Soft drink and ice manufacturing	0.00E+00	1.12E+02	6.73E+03	6.84E+03
71	Breweries	0.00E+00	3.32E+01	2.41E+03	2.44E+03
72	Wineries	0.00E+00	1.86E+01	8.76E+02	8.95E+02
76	Broadwoven fabric mills	0.00E+00	2.80E+00	1.54E+01	1.82E+01
80	Textile and fabric finishing mills	0.00E+00	2.53E+01	5.62E+01	8.15E+01
84	Textile bag and canvas mills	0.00E+00	4.18E+00	1.25E+00	5.43E+00
85	All other textile product mills	0.00E+00	8.65E+01	2.75E+01	1.14E+02
87	Cut and sew apparel contractors	0.00E+00	6.98E+01	1.13E+02	1.83E+02
91	Apparel accessories and other apparel manufacturing	0.00E+00	5.52E-02	2.25E+00	2.31E+00
93	Footwear manufacturing	0.00E+00	9.49E-10	2.28E+01	2.28E+01
95	Sawmills and wood preservation	0.00E+00	1.62E+04	3.18E+02	1.66E+04
97	Engineered wood member and truss manufacturing	0.00E+00	5.15E+02	9.44E+00	5.24E+02
99	Wood windows and doors and millwork manufacturing	0.00E+00	5.36E+02	1.25E+01	5.48E+02
100	Wood container and pallet manufacturing	0.00E+00	5.45E+02	5.39E+02	1.08E+03
101	Manufactured home (mobile home) manufacturing	0.00E+00	3.63E+02	2.73E+00	3.66E+02
103	All other miscellaneous wood product manufacturing	0.00E+00	3.45E+01	2.25E+01	5.70E+01
107	Paperboard container manufacturing	0.00E+00	4.75E+03	9.98E+02	5.74E+03
113	Printing	0.00E+00	4.57E+03	3.91E+03	8.48E+03
114	Support activities for printing	0.00E+00	4.15E+00	1.43E+00	5.57E+00
130	Fertilizer manufacturing	0.00E+00	5.61E+03	2.68E+02	5.87E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	8.80E+02	1.79E+03	2.67E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	1.05E+00	2.81E+02	2.82E+02
134	In-vitro diagnostic substance manufacturing	0.00E+00	8.12E-01	2.35E+00	3.17E+00
135	Biological product (except diagnostic) manufacturing	0.00E+00	3.50E+01	1.35E+02	1.70E+02
140	Printing ink manufacturing	0.00E+00	4.86E+01	1.68E+01	6.54E+01
141	All other chemical product and preparation manufacturing	0.00E+00	1.65E+01	4.38E+00	2.09E+01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.28E+02	3.60E+01	1.64E+02
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	2.28E+02	4.13E+01	2.70E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	8.73E+02	1.03E+02	9.76E+02
150	Tire manufacturing	0.00E+00	8.16E+01	6.25E+01	1.44E+02
162	Concrete pipe, brick, and block manufacturing	0.00E+00	3.54E+04	4.52E+02	3.59E+04
163	Other concrete product manufacturing	0.00E+00	5.31E+04	8.00E+02	5.39E+04
167	Ground or treated mineral and earth manufacturing	0.00E+00	1.53E+03	6.64E+01	1.59E+03
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	2.02E+04	7.57E+01	2.02E+04
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.19E+04	6.01E+01	1.20E+04
187	Ornamental and architectural metal products manufacturing	0.00E+00	6.70E+03	1.22E+02	6.82E+03
194	Spring and wire product manufacturing	0.00E+00	5.82E+02	2.86E+01	6.11E+02
195	Machine shops	0.00E+00	1.19E+02	6.46E+00	1.26E+02
197	Coating, engraving, heat treating and allied activities	0.00E+00	2.51E+01	1.28E+00	2.63E+01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.21E+03	3.10E+01	1.24E+03
203	Farm machinery and equipment manufacturing	0.00E+00	6.40E+01	5.62E+00	6.96E+01
205	Construction machinery manufacturing	0.00E+00	1.04E+01	7.35E-02	1.05E+01
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.19E+01	8.46E-01	1.27E+01
207	Other industrial machinery manufacturing	0.00E+00	1.03E+00	1.27E+00	2.30E+00
208	Plastics and rubber industry machinery manufacturing	0.00E+00	2.19E-01	6.67E-02	2.85E-01
211	Optical instrument and lens manufacturing	0.00E+00	1.65E-01	1.53E-01	3.18E-01
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	2.76E-01	5.67E-02	3.33E-01
226	Pump and pumping equipment manufacturing	0.00E+00	1.84E+01	5.47E-01	1.89E+01
228	Material handling equipment manufacturing	0.00E+00	5.34E+01	4.48E-01	5.39E+01
233	Fluid power process machinery manufacturing	0.00E+00	1.61E+01	1.04E+00	1.71E+01
234	Electronic computer manufacturing	0.00E+00	1.56E+00	6.67E+00	8.22E+00
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	3.13E+01	3.00E+01	6.13E+01
237	Telephone apparatus manufacturing	0.00E+00	1.08E+00	1.32E+00	2.40E+00
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	5.22E-01	7.24E-01	1.25E+00
240	Audio and video equipment manufacturing	0.00E+00	1.07E+00	7.42E-01	1.81E+00
241	Electron tube manufacturing	0.00E+00	6.24E-01	3.46E-01	9.70E-01
243	Semiconductor and related device manufacturing	0.00E+00	7.96E+00	3.52E+00	1.15E+01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	4.63E+00	2.10E+00	6.73E+00
249	Search, detection, and navigation instruments manufacturing	0.00E+00	3.12E-01	4.54E-01	7.67E-01
250	Automatic environmental control manufacturing	0.00E+00	1.05E+01	3.59E-01	1.08E+01
251	Industrial process variable instruments manufacturing	0.00E+00	2.30E+00	7.71E-01	3.07E+00
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.79E+00	1.82E+00	3.61E+00
253	Electricity and signal testing instruments manufacturing	0.00E+00	2.95E+00	1.63E-01	3.11E+00
269	Relay and industrial control manufacturing	0.00E+00	3.75E+00	4.88E-01	4.23E+00
273	Wiring device manufacturing	0.00E+00	3.63E+03	6.60E+01	3.69E+03
279	Motor vehicle body manufacturing	0.00E+00	1.80E+01	3.31E+00	2.13E+01
280	Truck trailer manufacturing	0.00E+00	5.02E+00	1.99E-01	5.22E+00
282	Travel trailer and camper manufacturing	0.00E+00	5.01E+01	5.68E+01	1.07E+02
283	Motor vehicle parts manufacturing	0.00E+00	1.88E+02	3.24E+01	2.20E+02
284	Aircraft manufacturing	0.00E+00	1.53E+01	3.36E-01	1.56E+01
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	7.37E-02	6.91E-01	7.64E-01
294	All other transportation equipment manufacturing	0.00E+00	2.95E+00	1.24E+01	1.53E+01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	1.58E+01	6.61E+00	2.24E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	1.99E-01	3.63E+00	3.83E+00
300	Office Furniture	0.00E+00	5.70E+00	3.90E+01	4.47E+01
304	Blind and shade manufacturing	0.00E+00	4.65E+01	4.04E+01	8.69E+01
312	Doll, toy, and game manufacturing	0.00E+00	1.77E+00	2.20E+02	2.22E+02
313	Office supplies (except paper) manufacturing	0.00E+00	3.19E+00	4.07E+00	7.26E+00
317	All other miscellaneous manufacturing	0.00E+00	3.11E+01	1.36E+02	1.67E+02
319	Wholesale trade businesses	0.00E+00	2.20E+05	1.95E+05	4.15E+05
320	Retail Stores - Motor vehicle and parts	0.00E+00	2.39E+04	6.15E+04	8.54E+04
321	Retail Stores - Furniture and home furnishings	0.00E+00	3.84E+03	2.07E+04	2.45E+04
322	Retail Stores - Electronics and appliances	0.00E+00	2.03E+03	9.01E+03	1.10E+04
323	Retail Stores - Building material and garden supply	0.00E+00	1.86E+04	3.35E+04	5.21E+04
324	Retail Stores - Food and beverage	0.00E+00	2.09E+04	9.03E+04	1.11E+05
325	Retail Stores - Health and personal care	0.00E+00	6.77E+03	2.87E+04	3.55E+04
326	Retail Stores - Gasoline stations	0.00E+00	9.26E+03	3.12E+04	4.05E+04
327	Retail Stores - Clothing and clothing accessories	0.00E+00	2.68E+03	1.26E+04	1.53E+04
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	3.43E+03	1.59E+04	1.93E+04
329	Retail Stores - General merchandise	0.00E+00	2.00E+04	8.68E+04	1.07E+05
330	Retail Stores - Miscellaneous	0.00E+00	4.79E+03	2.16E+04	2.64E+04
331	Retail Nonstores - Direct and electronic sales	0.00E+00	3.14E+03	1.69E+04	2.01E+04
332	Transport by air	0.00E+00	8.51E+00	1.45E+01	2.30E+01
333	Transport by rail	0.00E+00	2.69E+03	5.76E+02	3.27E+03
334	Transport by water	0.00E+00	2.14E+02	1.40E+02	3.54E+02
335	Transport by truck	0.00E+00	1.06E+05	2.83E+04	1.35E+05
336	Transit and ground passenger transportation	0.00E+00	5.36E+03	8.55E+03	1.39E+04
337	Transport by pipeline	0.00E+00	2.47E+02	9.60E+01	3.43E+02
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	1.84E+04	7.39E+03	2.58E+04
339	Couriers and messengers	0.00E+00	1.83E+04	1.31E+04	3.14E+04
340	Warehousing and storage	0.00E+00	9.93E+03	1.16E+04	2.15E+04
341	Newspaper publishers	0.00E+00	2.82E+03	5.01E+03	7.83E+03
342	Periodical publishers	0.00E+00	3.75E+02	3.43E+02	7.18E+02
343	Book publishers	0.00E+00	2.85E+00	3.23E+01	3.51E+01
344	Directory, mailing list, and other publishers	0.00E+00	3.76E+02	4.18E+02	7.94E+02
345	Software publishers	0.00E+00	1.67E+02	3.72E+01	2.04E+02
346	Motion picture and video industries	0.00E+00	3.70E+03	6.24E+03	9.94E+03
347	Sound recording industries	0.00E+00	7.57E+01	1.13E+03	1.21E+03
348	Radio and television broadcasting	0.00E+00	1.09E+04	1.01E+04	2.09E+04
349	Cable and other subscription programming	0.00E+00	7.52E+02	6.38E+02	1.39E+03
350	Internet publishing and broadcasting	0.00E+00	1.70E+03	1.36E+03	3.06E+03
351	Telecommunications	0.00E+00	1.56E+05	9.42E+04	2.50E+05
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	2.36E+03	3.73E+03	6.09E+03
353	Other information services	0.00E+00	2.51E+02	3.75E+02	6.26E+02
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.15E+05	1.19E+05	2.34E+05
355	Nondepository credit intermediation and related activities	0.00E+00	2.95E+04	5.82E+04	8.77E+04
356	Securities, commodity contracts, investments, and related activities	0.00E+00	3.03E+03	9.42E+03	1.25E+04
357	Insurance carriers	0.00E+00	1.29E+04	3.63E+04	4.92E+04
358	Insurance agencies, brokerages, and related activities	0.00E+00	5.78E+03	1.46E+04	2.04E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	4.40E+02	2.58E+04	2.63E+04
360	Real estate establishments	0.00E+00	1.95E+05	3.60E+05	5.55E+05
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	7.24E+05	7.24E+05
362	Automotive equipment rental and leasing	0.00E+00	2.41E+04	1.81E+04	4.21E+04
363	General and consumer goods rental except video tapes and discs	0.00E+00	5.82E+02	2.29E+03	2.87E+03
364	Video tape and disc rental	0.00E+00	0.00E+00	1.94E+03	1.94E+03
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.56E+05	3.37E+03	1.60E+05
366	Lessors of nonfinancial intangible assets	0.00E+00	8.45E+03	2.51E+03	1.10E+04
367	Legal services	0.00E+00	3.78E+04	1.61E+04	5.40E+04
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	3.28E+04	8.97E+03	4.18E+04
369	Architectural, engineering, and related services	4.28E+05	7.34E+05	1.08E+04	1.17E+06
370	Specialized design services	0.00E+00	9.85E+03	1.52E+03	1.14E+04
371	Custom computer programming services	0.00E+00	3.56E+03	8.17E+02	4.38E+03
372	Computer systems design services	0.00E+00	4.11E+02	1.06E+02	5.17E+02
373	Other computer related services, including facilities management	0.00E+00	6.27E+03	1.11E+03	7.38E+03
374	Management, scientific, and technical consulting services	0.00E+00	5.64E+04	2.03E+04	7.67E+04
375	Environmental and other technical consulting services	1.10E+05	1.18E+04	2.31E+03	1.25E+05
376	Scientific research and development services	0.00E+00	1.05E+04	5.24E+03	1.58E+04
377	Advertising and related services	0.00E+00	1.27E+04	1.13E+04	2.40E+04
378	Photographic services	0.00E+00	3.10E+03	1.95E+03	5.05E+03
379	Veterinary services	0.00E+00	1.15E+01	7.98E+03	7.99E+03
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.20E+04	1.95E+03	1.40E+04
381	Management of companies and enterprises	0.00E+00	3.88E+04	1.59E+04	5.47E+04
382	Employment services	0.00E+00	2.55E+04	6.64E+03	3.22E+04
383	Travel arrangement and reservation services	0.00E+00	1.78E+03	1.12E+03	2.90E+03
384	Office administrative services	0.00E+00	9.97E+03	2.50E+03	1.25E+04
386	Business support services	0.00E+00	8.12E+03	3.63E+03	1.17E+04
387	Investigation and security services	0.00E+00	1.03E+04	5.98E+03	1.63E+04
388	Services to buildings and dwellings	0.00E+00	5.21E+04	2.28E+04	7.49E+04
389	Other support services	0.00E+00	4.64E+03	1.57E+03	6.21E+03
390	Waste management and remediation services	0.00E+00	1.91E+04	1.39E+04	3.30E+04
391	Private elementary and secondary schools	0.00E+00	0.00E+00	6.03E+03	6.03E+03
393	Other private educational services	0.00E+00	1.54E+02	9.72E+03	9.87E+03
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	2.99E-01	1.82E+05	1.82E+05
395	Home health care services	0.00E+00	0.00E+00	1.02E+04	1.02E+04
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	2.39E+01	7.07E+04	7.07E+04
397	Private hospitals	0.00E+00	2.67E-01	1.21E+05	1.21E+05
398	Nursing and residential care facilities	0.00E+00	0.00E+00	7.65E+04	7.65E+04
399	Child day care services	0.00E+00	0.00E+00	2.04E+04	2.04E+04
400	Individual and family services	0.00E+00	0.00E+00	1.80E+04	1.80E+04
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	2.25E-02	1.35E+04	1.35E+04
402	Performing arts companies	0.00E+00	1.48E+01	9.55E+01	1.10E+02
403	Spectator sports companies	0.00E+00	2.22E+03	4.92E+03	7.14E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.23E+02	4.26E+02	5.49E+02
405	Independent artists, writers, and performers	0.00E+00	5.98E+03	3.10E+03	9.08E+03
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	9.35E+02	9.35E+02
407	Fitness and recreational sports centers	0.00E+00	1.64E+03	4.46E+03	6.10E+03
408	Bowling centers	0.00E+00	2.01E+00	3.09E+02	3.11E+02
409	Amusement parks, arcades, and gambling industries	0.00E+00	9.98E+00	1.47E+04	1.47E+04
410	Other amusement and recreation industries	0.00E+00	1.38E+03	8.61E+03	9.99E+03
411	Hotels and motels, including casino hotels	0.00E+00	5.54E+02	1.01E+03	1.56E+03
412	Other accommodations	0.00E+00	4.18E-01	1.01E+00	1.43E+00
413	Food services and drinking places	0.00E+00	5.19E+04	1.75E+05	2.27E+05
414	Automotive repair and maintenance, except car washes	0.00E+00	8.13E+04	2.91E+04	1.10E+05
415	Car washes	0.00E+00	1.71E+03	2.37E+03	4.08E+03
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.65E+04	3.62E+03	2.01E+04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	7.70E+04	5.22E+03	8.22E+04
418	Personal and household goods repair and maintenance	0.00E+00	4.81E+03	1.52E+03	6.32E+03
419	Personal care services	0.00E+00	5.10E-02	1.26E+04	1.26E+04
420	Death care services	0.00E+00	0.00E+00	3.51E+02	3.51E+02
421	Dry-cleaning and laundry services	0.00E+00	9.86E+02	6.25E+03	7.24E+03
422	Other personal services	0.00E+00	2.82E+03	1.33E+04	1.61E+04
423	Religious organizations	0.00E+00	0.00E+00	6.33E+03	6.33E+03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	7.82E+00	2.06E+04	2.06E+04
425	Civic, social, professional, and similar organizations	0.00E+00	2.48E+04	4.29E+04	6.77E+04
426	Private household operations	0.00E+00	0.00E+00	1.69E+04	1.69E+04
427	US Postal Service	0.00E+00	1.80E+04	1.82E+04	3.62E+04
429	Other Federal Government enterprises	0.00E+00	8.09E+02	2.08E+03	2.89E+03
430	State and local government passenger transit	0.00E+00	4.23E+02	6.76E+02	1.10E+03
431	State and local government electric utilities	0.00E+00	5.66E+03	7.74E+03	1.34E+04
432	Other state and local government enterprises	0.00E+00	1.27E+04	3.79E+04	5.06E+04

Year 2 Construction – Low Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.90E+07	5.14E+06	5.39E+06	2.95E+07
1	Oilseed farming	0.00E+00	2.36E+01	1.05E+02	1.29E+02
2	Grain farming	0.00E+00	4.38E+02	1.66E+03	2.09E+03
3	Vegetable and melon farming	0.00E+00	6.52E+01	7.73E+03	7.79E+03
4	Fruit farming	0.00E+00	7.49E+01	7.19E+03	7.27E+03
5	Tree nut farming	0.00E+00	1.32E+02	1.59E+03	1.72E+03
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.36E+01	1.72E+02	1.85E+02
9	Sugarcane and sugar beet farming	0.00E+00	2.37E+00	3.67E+00	6.04E+00
10	All other crop farming	0.00E+00	3.20E+04	1.02E+03	3.30E+04
11	Cattle ranching and farming	0.00E+00	3.00E+01	1.02E+02	1.32E+02
12	Dairy cattle and milk production	0.00E+00	6.61E+01	3.79E+02	4.45E+02
13	Poultry and egg production	0.00E+00	1.73E+00	2.57E+02	2.58E+02
14	Animal production, except cattle and poultry and eggs	0.00E+00	5.19E+01	8.17E+02	8.69E+02
15	Forestry, forest products, and timber tract production	0.00E+00	1.46E+03	5.12E+01	1.51E+03
18	Commercial hunting and trapping	0.00E+00	0.00E+00	4.13E+01	4.13E+01
19	Support activities for agriculture and forestry	0.00E+00	4.40E+03	3.20E+03	7.60E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	5.23E+03	2.80E+03	8.03E+03
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.01E+04	4.47E+02	1.06E+04
29	Support activities for oil and gas operations	0.00E+00	5.84E+02	1.48E+02	7.32E+02
31	Electric power generation, transmission, and distribution	0.00E+00	5.38E+04	7.36E+04	1.27E+05
32	Natural gas distribution	0.00E+00	1.55E+03	1.85E+03	3.40E+03
33	Water, sewage and other treatment and delivery systems	0.00E+00	5.85E+01	1.65E+02	2.23E+02
36	Construction of other new nonresidential structures	1.80E+07	0.00E+00	0.00E+00	1.80E+07
39	Maintenance and repair construction of nonresidential structures	0.00E+00	5.83E+04	3.64E+04	9.48E+04
40	Maintenance and repair construction of residential structures	0.00E+00	6.61E+02	1.54E+04	1.60E+04
41	Dog and cat food manufacturing	0.00E+00	1.35E-01	1.21E+02	1.21E+02
42	Other animal food manufacturing	0.00E+00	1.41E+02	2.58E+03	2.72E+03
43	Flour milling and malt manufacturing	0.00E+00	1.47E+02	5.81E+03	5.96E+03
52	Nonchocolate confectionery manufacturing	0.00E+00	3.45E+00	1.71E+02	1.74E+02
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.32E+02	4.59E+03	4.72E+03
62	Bread and bakery product manufacturing	0.00E+00	9.95E+00	3.61E+02	3.71E+02
64	Tortilla manufacturing	0.00E+00	5.24E-01	4.45E+02	4.46E+02
69	All other food manufacturing	0.00E+00	3.60E+01	7.84E+02	8.20E+02
70	Soft drink and ice manufacturing	0.00E+00	7.37E+02	4.43E+04	4.51E+04
71	Breweries	0.00E+00	7.49E+01	5.44E+03	5.51E+03
72	Wineries	0.00E+00	6.00E+01	2.83E+03	2.89E+03
76	Broadwoven fabric mills	0.00E+00	8.90E+00	4.89E+01	5.78E+01
80	Textile and fabric finishing mills	0.00E+00	9.14E+01	2.03E+02	2.94E+02
84	Textile bag and canvas mills	0.00E+00	8.86E+00	2.65E+00	1.15E+01
85	All other textile product mills	0.00E+00	2.34E+02	7.42E+01	3.08E+02
87	Cut and sew apparel contractors	0.00E+00	1.44E+02	2.33E+02	3.77E+02
91	Apparel accessories and other apparel manufacturing	0.00E+00	2.93E-01	1.20E+01	1.23E+01
93	Footwear manufacturing	0.00E+00	2.47E-09	5.93E+01	5.93E+01
95	Sawmills and wood preservation	0.00E+00	6.23E+04	1.22E+03	6.36E+04
97	Engineered wood member and truss manufacturing	0.00E+00	1.32E+03	2.42E+01	1.34E+03
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.70E+03	3.97E+01	1.74E+03
100	Wood container and pallet manufacturing	0.00E+00	1.19E+03	1.18E+03	2.36E+03
101	Manufactured home (mobile home) manufacturing	0.00E+00	1.25E+03	9.40E+00	1.26E+03
103	All other miscellaneous wood product manufacturing	0.00E+00	8.46E+01	5.51E+01	1.40E+02
107	Paperboard container manufacturing	0.00E+00	2.10E+04	4.42E+03	2.54E+04
113	Printing	0.00E+00	1.17E+04	1.00E+04	2.18E+04
114	Support activities for printing	0.00E+00	7.81E+00	2.68E+00	1.05E+01
130	Fertilizer manufacturing	0.00E+00	4.12E+04	1.97E+03	4.32E+04
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	2.95E+03	6.01E+03	8.96E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	3.53E+00	9.41E+02	9.44E+02
134	In-vitro diagnostic substance manufacturing	0.00E+00	4.68E+00	1.36E+01	1.82E+01
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.26E+02	4.86E+02	6.12E+02
140	Printing ink manufacturing	0.00E+00	1.92E+02	6.65E+01	2.59E+02
141	All other chemical product and preparation manufacturing	0.00E+00	5.62E+01	1.49E+01	7.11E+01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	3.84E+02	1.08E+02	4.92E+02
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	6.19E+02	1.12E+02	7.31E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	2.51E+03	2.96E+02	2.80E+03
150	Tire manufacturing	0.00E+00	2.77E+02	2.12E+02	4.89E+02
162	Concrete pipe, brick, and block manufacturing	0.00E+00	7.56E+04	9.64E+02	7.66E+04
163	Other concrete product manufacturing	0.00E+00	1.06E+05	1.59E+03	1.07E+05
167	Ground or treated mineral and earth manufacturing	0.00E+00	3.26E+03	1.42E+02	3.40E+03
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	5.15E+04	1.93E+02	5.17E+04
186	Plate work and fabricated structural product manufacturing	0.00E+00	2.91E+04	1.47E+02	2.92E+04
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.80E+04	3.28E+02	1.83E+04
194	Spring and wire product manufacturing	0.00E+00	1.26E+03	6.21E+01	1.33E+03
195	Machine shops	0.00E+00	2.32E+02	1.25E+01	2.44E+02
197	Coating, engraving, heat treating and allied activities	0.00E+00	5.82E+01	2.97E+00	6.12E+01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	2.44E+03	6.26E+01	2.50E+03
203	Farm machinery and equipment manufacturing	0.00E+00	2.37E+02	2.08E+01	2.58E+02
205	Construction machinery manufacturing	0.00E+00	4.84E+01	3.42E+01	4.88E+01
206	Mining and oil and gas field machinery manufacturing	0.00E+00	3.58E+01	2.55E+00	3.83E+01
207	Other industrial machinery manufacturing	0.00E+00	2.67E+00	3.29E+00	5.97E+00
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.02E+00	3.10E+01	1.33E+00
211	Optical instrument and lens manufacturing	0.00E+00	5.95E+01	5.53E+01	1.15E+00
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	7.84E+01	1.61E+01	9.44E+01
226	Pump and pumping equipment manufacturing	0.00E+00	6.23E+01	1.85E+00	6.42E+01
228	Material handling equipment manufacturing	0.00E+00	2.29E+02	1.92E+00	2.31E+02
233	Fluid power process machinery manufacturing	0.00E+00	4.37E+01	2.82E+00	4.65E+01
234	Electronic computer manufacturing	0.00E+00	2.78E+00	1.19E+01	1.47E+01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	6.08E+01	5.82E+01	1.19E+02
237	Telephone apparatus manufacturing	0.00E+00	2.91E+00	3.54E+00	6.46E+00
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	2.76E+00	3.83E+00	6.59E+00
240	Audio and video equipment manufacturing	0.00E+00	4.65E+00	3.23E+00	7.88E+00
241	Electron tube manufacturing	0.00E+00	2.06E+00	1.14E+00	3.20E+00
243	Semiconductor and related device manufacturing	0.00E+00	1.42E+01	6.27E+00	2.05E+01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	1.67E+01	7.57E+00	2.42E+01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	8.86E+01	1.29E+00	2.17E+00
250	Automatic environmental control manufacturing	0.00E+00	2.99E+01	1.02E+00	3.09E+01
251	Industrial process variable instruments manufacturing	0.00E+00	7.93E+00	2.66E+00	1.06E+01
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	8.68E+00	8.83E+00	1.75E+01
253	Electricity and signal testing instruments manufacturing	0.00E+00	6.75E+00	3.73E+01	7.13E+00
269	Relay and industrial control manufacturing	0.00E+00	9.41E+00	1.23E+00	1.06E+01
273	Wiring device manufacturing	0.00E+00	7.16E+03	1.30E+02	7.29E+03
279	Motor vehicle body manufacturing	0.00E+00	4.72E+01	8.68E+00	5.59E+01
280	Truck trailer manufacturing	0.00E+00	2.09E+01	8.26E+01	2.17E+01
282	Travel trailer and camper manufacturing	0.00E+00	2.69E+02	3.05E+02	5.74E+02
283	Motor vehicle parts manufacturing	0.00E+00	1.25E+03	2.16E+02	1.47E+03
284	Aircraft manufacturing	0.00E+00	6.75E+01	1.48E+00	6.90E+01
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	5.09E+01	4.77E+00	5.27E+00
294	All other transportation equipment manufacturing	0.00E+00	1.18E+01	4.97E+01	6.15E+01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	4.19E+01	1.76E+01	5.94E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	3.99E-01	7.30E+00	7.70E+00
300	Office Furniture	0.00E+00	1.29E+01	8.85E+01	1.01E+02
304	Blind and shade manufacturing	0.00E+00	1.56E+02	1.36E+02	2.91E+02
312	Doll, toy, and game manufacturing	0.00E+00	2.70E+00	3.36E+02	3.39E+02
313	Office supplies (except paper) manufacturing	0.00E+00	4.96E+00	6.34E+00	1.13E+01
317	All other miscellaneous manufacturing	0.00E+00	5.44E+01	2.39E+02	2.93E+02
319	Wholesale trade businesses	0.00E+00	2.77E+05	2.46E+05	5.23E+05
320	Retail Stores - Motor vehicle and parts	0.00E+00	3.93E+04	1.01E+05	1.40E+05
321	Retail Stores - Furniture and home furnishings	0.00E+00	5.71E+03	3.07E+04	3.64E+04
322	Retail Stores - Electronics and appliances	0.00E+00	3.95E+03	1.75E+04	2.15E+04
323	Retail Stores - Building material and garden supply	0.00E+00	2.62E+04	4.72E+04	7.33E+04
324	Retail Stores - Food and beverage	0.00E+00	2.71E+04	1.17E+05	1.44E+05
325	Retail Stores - Health and personal care	0.00E+00	9.78E+03	4.15E+04	5.12E+04
326	Retail Stores - Gasoline stations	0.00E+00	1.18E+04	3.99E+04	5.17E+04
327	Retail Stores - Clothing and clothing accessories	0.00E+00	4.68E+03	2.21E+04	2.67E+04
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	5.26E+03	2.44E+04	2.97E+04
329	Retail Stores - General merchandise	0.00E+00	2.57E+04	1.12E+05	1.37E+05
330	Retail Stores - Miscellaneous	0.00E+00	7.41E+03	3.34E+04	4.08E+04
331	Retail Nonstores - Direct and electronic sales	0.00E+00	5.78E+03	3.11E+04	3.69E+04
332	Transport by air	0.00E+00	5.19E+01	8.83E+01	1.40E+02
333	Transport by rail	0.00E+00	4.80E+03	1.03E+03	5.83E+03
334	Transport by water	0.00E+00	4.99E+02	3.26E+02	8.25E+02
335	Transport by truck	0.00E+00	1.76E+05	4.69E+04	2.22E+05
336	Transit and ground passenger transportation	0.00E+00	6.59E+03	1.05E+04	1.71E+04
337	Transport by pipeline	0.00E+00	1.46E+03	5.67E+02	2.03E+03
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	3.00E+04	1.21E+04	4.21E+04
339	Couriers and messengers	0.00E+00	2.32E+04	1.66E+04	3.97E+04
340	Warehousing and storage	0.00E+00	1.57E+04	1.84E+04	3.41E+04
341	Newspaper publishers	0.00E+00	5.53E+03	9.82E+03	1.53E+04
342	Periodical publishers	0.00E+00	1.06E+03	9.69E+02	2.03E+03
343	Book publishers	0.00E+00	6.47E+00	7.32E+01	7.96E+01
344	Directory, mailing list, and other publishers	0.00E+00	8.94E+02	9.93E+02	1.89E+03
345	Software publishers	0.00E+00	2.64E+02	5.90E+01	3.23E+02
346	Motion picture and video industries	0.00E+00	7.01E+03	1.18E+04	1.88E+04
347	Sound recording industries	0.00E+00	2.08E+02	3.10E+03	3.31E+03
348	Radio and television broadcasting	0.00E+00	2.88E+04	2.66E+04	5.54E+04
349	Cable and other subscription programming	0.00E+00	2.64E+03	2.24E+03	4.89E+03
350	Internet publishing and broadcasting	0.00E+00	4.26E+03	3.41E+03	7.68E+03
351	Telecommunications	0.00E+00	2.74E+05	1.66E+05	4.40E+05
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	3.33E+03	5.27E+03	8.60E+03
353	Other information services	0.00E+00	3.28E+02	4.92E+02	8.20E+02
354	Monetary authorities and depository credit intermediation activities	0.00E+00	2.45E+05	2.53E+05	4.98E+05
355	Nondepository credit intermediation and related activities	0.00E+00	5.50E+04	1.09E+05	1.64E+05
356	Securities, commodity contracts, investments, and related activities	0.00E+00	3.73E+04	1.16E+05	1.53E+05
357	Insurance carriers	0.00E+00	1.97E+04	5.53E+04	7.50E+04
358	Insurance agencies, brokerages, and related activities	0.00E+00	8.46E+03	2.14E+04	2.99E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	1.03E+03	6.07E+04	6.18E+04
360	Real estate establishments	0.00E+00	2.25E+05	4.16E+05	6.41E+05
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	8.21E+05	8.21E+05
362	Automotive equipment rental and leasing	0.00E+00	3.90E+04	2.93E+04	6.83E+04
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.11E+03	4.37E+03	5.48E+03
364	Video tape and disc rental	0.00E+00	0.00E+00	3.58E+03	3.58E+03
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	2.93E+05	6.31E+03	2.99E+05
366	Lessors of nonfinancial intangible assets	0.00E+00	1.05E+04	3.11E+03	1.36E+04
367	Legal services	0.00E+00	5.39E+04	2.30E+04	7.69E+04
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	4.97E+04	1.36E+04	6.33E+04
369	Architectural, engineering, and related services	8.10E+05	1.39E+06	2.04E+04	2.22E+06
370	Specialized design services	0.00E+00	1.27E+04	1.95E+03	1.46E+04
371	Custom computer programming services	0.00E+00	6.36E+03	1.46E+03	7.81E+03
372	Computer systems design services	0.00E+00	3.66E+03	9.42E+02	4.61E+03
373	Other computer related services, including facilities management	0.00E+00	8.48E+03	1.49E+03	9.97E+03
374	Management, scientific, and technical consulting services	0.00E+00	9.98E+04	3.58E+04	1.36E+05
375	Environmental and other technical consulting services	1.80E+05	1.92E+04	3.77E+03	2.03E+05
376	Scientific research and development services	0.00E+00	2.44E+04	1.22E+04	3.65E+04
377	Advertising and related services	0.00E+00	1.92E+04	1.70E+04	3.62E+04
378	Photographic services	0.00E+00	3.99E+03	2.51E+03	6.51E+03
379	Veterinary services	0.00E+00	1.86E+01	1.29E+04	1.30E+04
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.50E+04	2.44E+03	1.75E+04
381	Management of companies and enterprises	0.00E+00	6.51E+04	2.68E+04	9.19E+04
382	Employment services	0.00E+00	3.28E+04	8.54E+03	4.14E+04
383	Travel arrangement and reservation services	0.00E+00	3.32E+03	2.10E+03	5.42E+03
384	Office administrative services	0.00E+00	1.77E+04	4.46E+03	2.22E+04
386	Business support services	0.00E+00	1.44E+04	6.43E+03	2.08E+04
387	Investigation and security services	0.00E+00	1.74E+04	1.01E+04	2.75E+04
388	Services to buildings and dwellings	0.00E+00	1.04E+05	4.55E+04	1.49E+05
389	Other support services	0.00E+00	8.27E+03	2.80E+03	1.11E+04
390	Waste management and remediation services	0.00E+00	3.08E+04	2.24E+04	5.32E+04
391	Private elementary and secondary schools	0.00E+00	0.00E+00	2.47E+04	2.47E+04
393	Other private educational services	0.00E+00	4.48E+02	2.82E+04	2.86E+04
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	4.54E-01	2.77E+05	2.77E+05
395	Home health care services	0.00E+00	0.00E+00	1.41E+04	1.41E+04
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	4.37E+01	1.29E+05	1.29E+05
397	Private hospitals	0.00E+00	4.36E-01	1.97E+05	1.97E+05
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.16E+05	1.16E+05
399	Child day care services	0.00E+00	0.00E+00	3.39E+04	3.39E+04
400	Individual and family services	0.00E+00	0.00E+00	2.53E+04	2.53E+04
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	3.67E-02	2.21E+04	2.21E+04
402	Performing arts companies	0.00E+00	6.72E+01	4.33E+02	5.01E+02
403	Spectator sports companies	0.00E+00	8.66E+03	1.92E+04	2.79E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	4.56E+02	1.58E+03	2.04E+03
405	Independent artists, writers, and performers	0.00E+00	1.13E+04	5.85E+03	1.71E+04
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	2.08E+03	2.08E+03
407	Fitness and recreational sports centers	0.00E+00	3.39E+03	9.18E+03	1.26E+04
408	Bowling centers	0.00E+00	3.49E+00	5.35E+02	5.39E+02
409	Amusement parks, arcades, and gambling industries	0.00E+00	1.75E+01	2.57E+04	2.57E+04
410	Other amusement and recreation industries	0.00E+00	2.19E+03	1.37E+04	1.59E+04
411	Hotels and motels, including casino hotels	0.00E+00	1.07E+03	1.94E+03	3.01E+03
412	Other accommodations	0.00E+00	1.03E+00	2.48E+00	3.51E+00
413	Food services and drinking places	0.00E+00	9.84E+04	3.32E+05	4.31E+05
414	Automotive repair and maintenance, except car washes	0.00E+00	1.38E+05	4.94E+04	1.88E+05
415	Car washes	0.00E+00	3.19E+03	4.43E+03	7.62E+03
416	Electronic and precision equipment repair and maintenance	0.00E+00	2.75E+04	6.06E+03	3.36E+04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.09E+05	7.38E+03	1.16E+05
418	Personal and household goods repair and maintenance	0.00E+00	1.38E+04	4.34E+03	1.81E+04
419	Personal care services	0.00E+00	9.53E-02	2.35E+04	2.35E+04
420	Death care services	0.00E+00	0.00E+00	9.58E+02	9.58E+02
421	Dry-cleaning and laundry services	0.00E+00	1.23E+03	7.82E+03	9.05E+03
422	Other personal services	0.00E+00	7.64E+03	3.59E+04	4.36E+04
423	Religious organizations	0.00E+00	0.00E+00	2.85E+04	2.85E+04
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.48E+01	3.90E+04	3.90E+04
425	Civic, social, professional, and similar organizations	0.00E+00	4.47E+04	7.72E+04	1.22E+05
426	Private household operations	0.00E+00	0.00E+00	1.73E+04	1.73E+04
427	US Postal Service	0.00E+00	2.15E+04	2.17E+04	4.32E+04
429	Other Federal Government enterprises	0.00E+00	4.07E+03	1.05E+04	1.46E+04
430	State and local government passenger transit	0.00E+00	4.26E+03	6.80E+03	1.11E+04
431	State and local government electric utilities	0.00E+00	9.71E+03	1.33E+04	2.30E+04
432	Other state and local government enterprises	0.00E+00	4.15E+04	1.24E+05	1.65E+05

Year 2 Construction – High Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.37E+02	4.72E+01	4.94E+01	2.34E+02
1	Oilseed farming	0.00E+00	2.24E-04	1.02E-03	1.25E-03
2	Grain farming	0.00E+00	7.02E-03	2.67E-02	3.37E-02
3	Vegetable and melon farming	0.00E+00	1.88E-04	2.32E-02	2.33E-02
4	Fruit farming	0.00E+00	2.90E-04	2.86E-02	2.88E-02
5	Tree nut farming	0.00E+00	1.28E-03	1.58E-02	1.70E-02
6	Greenhouse, nursery, and floriculture production	0.00E+00	4.93E-05	6.28E-04	6.78E-04
9	Sugarcane and sugar beet farming	0.00E+00	7.35E-05	1.17E-04	1.91E-04
10	All other crop farming	0.00E+00	1.28E-01	4.02E-03	1.32E-01
11	Cattle ranching and farming	0.00E+00	1.88E-04	6.44E-04	8.33E-04
12	Dairy cattle and milk production	0.00E+00	3.79E-04	2.24E-03	2.62E-03
13	Poultry and egg production	0.00E+00	1.49E-06	2.29E-04	2.30E-04
14	Animal production, except cattle and poultry and eggs	0.00E+00	6.91E-04	1.10E-02	1.17E-02
15	Forestry, forest products, and timber tract production	0.00E+00	6.88E-03	2.38E-04	7.12E-03
18	Commercial hunting and trapping	0.00E+00	0.00E+00	5.22E-04	5.22E-04
19	Support activities for agriculture and forestry	0.00E+00	1.16E-01	8.35E-02	2.00E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	3.11E-02	1.65E-02	4.76E-02
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	9.47E-02	4.11E-03	9.88E-02
29	Support activities for oil and gas operations	0.00E+00	3.67E-03	9.19E-04	4.59E-03
31	Electric power generation, transmission, and distribution	0.00E+00	8.63E-02	1.17E-01	2.04E-01
32	Natural gas distribution	0.00E+00	1.66E-03	1.95E-03	3.61E-03
33	Water, sewage and other treatment and delivery systems	0.00E+00	2.86E-04	8.01E-04	1.09E-03
36	Construction of other new nonresidential structures	1.28E+02	0.00E+00	0.00E+00	1.28E+02
39	Maintenance and repair construction of nonresidential structures	0.00E+00	4.44E-01	2.81E-01	7.25E-01
40	Maintenance and repair construction of residential structures	0.00E+00	5.66E-03	1.33E-01	1.38E-01
41	Dog and cat food manufacturing	0.00E+00	1.15E-07	1.13E-04	1.13E-04
42	Other animal food manufacturing	0.00E+00	1.51E-04	2.84E-03	2.99E-03
43	Flour milling and malt manufacturing	0.00E+00	1.59E-04	6.49E-03	6.65E-03
52	Nonchocolate confectionery manufacturing	0.00E+00	1.07E-05	5.51E-04	5.62E-04
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	3.01E-04	1.09E-02	1.12E-02
62	Bread and bakery product manufacturing	0.00E+00	8.35E-05	3.16E-03	3.25E-03
64	Tortilla manufacturing	0.00E+00	3.29E-06	2.86E-03	2.86E-03
69	All other food manufacturing	0.00E+00	1.29E-04	2.92E-03	3.05E-03
70	Soft drink and ice manufacturing	0.00E+00	1.18E-03	7.38E-02	7.49E-02
71	Breweries	0.00E+00	7.25E-05	5.47E-03	5.54E-03
72	Wineries	0.00E+00	1.55E-04	7.63E-03	7.79E-03
76	Broadwoven fabric mills	0.00E+00	4.73E-05	2.57E-04	3.04E-04
80	Textile and fabric finishing mills	0.00E+00	6.21E-04	1.37E-03	1.99E-03
84	Textile bag and canvas mills	0.00E+00	7.73E-05	2.27E-05	1.00E-04
85	All other textile product mills	0.00E+00	1.78E-03	5.58E-04	2.34E-03
87	Cut and sew apparel contractors	0.00E+00	2.88E-03	4.64E-03	7.52E-03
91	Apparel accessories and other apparel manufacturing	0.00E+00	3.49E-06	1.42E-04	1.45E-04
93	Footwear manufacturing	0.00E+00	2.29E-14	5.40E-04	5.40E-04
95	Sawmills and wood preservation	0.00E+00	3.30E-01	6.37E-03	3.37E-01
97	Engineered wood member and truss manufacturing	0.00E+00	1.12E-02	2.01E-04	1.14E-02
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.34E-02	3.07E-04	1.37E-02
100	Wood container and pallet manufacturing	0.00E+00	1.06E-02	1.04E-02	2.10E-02
101	Manufactured home (mobile home) manufacturing	0.00E+00	1.11E-02	8.17E-05	1.11E-02
103	All other miscellaneous wood product manufacturing	0.00E+00	6.35E-04	4.09E-04	1.04E-03
107	Paperboard container manufacturing	0.00E+00	7.09E-02	1.47E-02	8.56E-02
113	Printing	0.00E+00	9.19E-02	7.97E-02	1.72E-01
114	Support activities for printing	0.00E+00	8.56E-05	3.10E-05	1.17E-04
130	Fertilizer manufacturing	0.00E+00	4.22E-02	1.98E-03	4.42E-02
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	2.63E-03	5.27E-03	7.90E-03
133	Pharmaceutical preparation manufacturing	0.00E+00	3.04E-06	8.77E-04	8.80E-04
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.50E-05	4.36E-05	5.86E-05
135	Biological product (except diagnostic) manufacturing	0.00E+00	2.00E-04	8.35E-04	1.03E-03
140	Printing ink manufacturing	0.00E+00	5.61E-04	1.96E-04	7.57E-04
141	All other chemical product and preparation manufacturing	0.00E+00	1.28E-04	3.38E-05	1.62E-04
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.35E-03	3.74E-04	1.73E-03
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	2.70E-03	4.95E-04	3.20E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	1.40E-02	1.63E-03	1.56E-02
150	Tire manufacturing	0.00E+00	1.17E-03	8.85E-04	2.05E-03
162	Concrete pipe, brick, and block manufacturing	0.00E+00	3.19E-01	4.01E-03	3.23E-01
163	Other concrete product manufacturing	0.00E+00	6.11E-01	9.07E-03	6.21E-01
167	Ground or treated mineral and earth manufacturing	0.00E+00	6.44E-03	2.76E-04	6.72E-03
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.62E-01	5.98E-04	1.62E-01
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.44E-01	7.14E-04	1.44E-01
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.22E-01	2.18E-03	1.24E-01
194	Spring and wire product manufacturing	0.00E+00	7.60E-03	3.70E-04	7.97E-03
195	Machine shops	0.00E+00	2.05E-03	1.09E-04	2.16E-03
197	Coating, engraving, heat treating and allied activities	0.00E+00	4.10E-04	2.06E-05	4.31E-04
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.00E-02	2.54E-04	1.03E-02
203	Farm machinery and equipment manufacturing	0.00E+00	6.34E-04	5.49E-05	6.89E-04
205	Construction machinery manufacturing	0.00E+00	1.11E-04	7.76E-07	1.12E-04
206	Mining and oil and gas field machinery manufacturing	0.00E+00	8.81E-05	6.30E-06	9.44E-05
207	Other industrial machinery manufacturing	0.00E+00	1.42E-05	1.75E-05	3.17E-05
208	Plastics and rubber industry machinery manufacturing	0.00E+00	5.95E-06	1.84E-06	7.79E-06
211	Optical instrument and lens manufacturing	0.00E+00	2.68E-06	2.59E-06	5.27E-06
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	9.05E-06	1.87E-06	1.09E-05
226	Pump and pumping equipment manufacturing	0.00E+00	2.16E-04	6.33E-06	2.22E-04
228	Material handling equipment manufacturing	0.00E+00	9.21E-04	7.60E-06	9.29E-04
233	Fluid power process machinery manufacturing	0.00E+00	2.15E-04	1.37E-05	2.29E-04
234	Electronic computer manufacturing	0.00E+00	2.61E-06	1.16E-05	1.42E-05
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	2.08E-04	2.02E-04	4.10E-04
237	Telephone apparatus manufacturing	0.00E+00	5.32E-06	6.53E-06	1.19E-05
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	7.72E-06	1.06E-05	1.83E-05
240	Audio and video equipment manufacturing	0.00E+00	1.45E-05	9.97E-06	2.45E-05
241	Electron tube manufacturing	0.00E+00	9.49E-06	5.29E-06	1.48E-05
243	Semiconductor and related device manufacturing	0.00E+00	2.72E-05	1.20E-05	3.92E-05
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	8.70E-05	3.96E-05	1.27E-04
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.91E-06	4.20E-06	7.11E-06
250	Automatic environmental control manufacturing	0.00E+00	1.49E-04	5.03E-06	1.54E-04
251	Industrial process variable instruments manufacturing	0.00E+00	3.88E-05	1.30E-05	5.17E-05
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	2.69E-05	2.76E-05	5.44E-05
253	Electricity and signal testing instruments manufacturing	0.00E+00	2.65E-05	1.44E-06	2.80E-05
269	Relay and industrial control manufacturing	0.00E+00	4.05E-05	5.23E-06	4.57E-05
273	Wiring device manufacturing	0.00E+00	3.12E-02	5.58E-04	3.17E-02
279	Motor vehicle body manufacturing	0.00E+00	1.68E-04	3.04E-05	1.98E-04
280	Truck trailer manufacturing	0.00E+00	1.12E-04	4.35E-06	1.16E-04
282	Travel trailer and camper manufacturing	0.00E+00	1.67E-03	1.87E-03	3.55E-03
283	Motor vehicle parts manufacturing	0.00E+00	4.96E-03	8.45E-04	5.80E-03
284	Aircraft manufacturing	0.00E+00	1.48E-04	3.20E-06	1.51E-04
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.22E-06	1.13E-05	1.26E-05
294	All other transportation equipment manufacturing	0.00E+00	3.13E-05	1.30E-04	1.61E-04
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	3.99E-04	1.65E-04	5.64E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	3.85E-06	6.93E-05	7.31E-05
300	Office Furniture	0.00E+00	7.07E-05	4.75E-04	5.46E-04
304	Blind and shade manufacturing	0.00E+00	1.51E-03	1.30E-03	2.81E-03
312	Doll, toy, and game manufacturing	0.00E+00	6.79E-06	8.43E-04	8.49E-04
313	Office supplies (except paper) manufacturing	0.00E+00	2.72E-05	3.48E-05	6.20E-05
317	All other miscellaneous manufacturing	0.00E+00	2.63E-04	1.23E-03	1.49E-03
319	Wholesale trade businesses	0.00E+00	2.47E+00	2.17E+00	4.63E+00
320	Retail Stores - Motor vehicle and parts	0.00E+00	4.44E-01	1.12E+00	1.57E+00
321	Retail Stores - Furniture and home furnishings	0.00E+00	6.67E-02	3.53E-01	4.20E-01
322	Retail Stores - Electronics and appliances	0.00E+00	4.75E-02	2.07E-01	2.55E-01
323	Retail Stores - Building material and garden supply	0.00E+00	3.44E-01	6.11E-01	9.55E-01
324	Retail Stores - Food and beverage	0.00E+00	4.17E-01	1.77E+00	2.19E+00
325	Retail Stores - Health and personal care	0.00E+00	1.38E-01	5.76E-01	7.14E-01
326	Retail Stores - Gasoline stations	0.00E+00	6.69E-02	2.22E-01	2.89E-01
327	Retail Stores - Clothing and clothing accessories	0.00E+00	9.05E-02	4.20E-01	5.10E-01
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	1.12E-01	5.13E-01	6.26E-01
329	Retail Stores - General merchandise	0.00E+00	4.92E-01	2.11E+00	2.60E+00
330	Retail Stores - Miscellaneous	0.00E+00	1.50E-01	6.64E-01	8.14E-01
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.20E-01	6.33E-01	7.53E-01
332	Transport by air	0.00E+00	3.37E-04	5.85E-04	9.22E-04
333	Transport by rail	0.00E+00	1.95E-02	4.13E-03	2.37E-02
334	Transport by water	0.00E+00	1.29E-03	8.29E-04	2.11E-03
335	Transport by truck	0.00E+00	1.52E+00	3.99E-01	1.92E+00
336	Transit and ground passenger transportation	0.00E+00	1.05E-01	1.73E-01	2.78E-01
337	Transport by pipeline	0.00E+00	3.49E-03	1.34E-03	4.83E-03
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	3.08E-01	1.23E-01	4.32E-01
339	Couriers and messengers	0.00E+00	2.43E-01	1.77E-01	4.20E-01
340	Warehousing and storage	0.00E+00	1.84E-01	2.15E-01	4.00E-01
341	Newspaper publishers	0.00E+00	5.13E-02	9.22E-02	1.44E-01
342	Periodical publishers	0.00E+00	4.20E-03	3.91E-03	8.11E-03
343	Book publishers	0.00E+00	2.26E-05	2.62E-04	2.84E-04
344	Directory, mailing list, and other publishers	0.00E+00	2.83E-03	3.19E-03	6.02E-03
345	Software publishers	0.00E+00	6.53E-04	1.50E-04	8.02E-04
346	Motion picture and video industries	0.00E+00	3.12E-02	5.32E-02	8.44E-02
347	Sound recording industries	0.00E+00	1.95E-04	2.96E-03	3.15E-03
348	Radio and television broadcasting	0.00E+00	1.67E-01	1.56E-01	3.23E-01
349	Cable and other subscription programming	0.00E+00	1.02E-02	8.76E-03	1.90E-02
350	Internet publishing and broadcasting	0.00E+00	2.21E-02	1.83E-02	4.04E-02
351	Telecommunications	0.00E+00	7.03E-01	4.26E-01	1.13E+00
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.23E-02	1.95E-02	3.18E-02
353	Other information services	0.00E+00	5.35E-04	8.31E-04	1.37E-03
354	Monetary authorities and depository credit intermediation activities	0.00E+00	7.30E-01	7.59E-01	1.49E+00
355	Nondepository credit intermediation and related activities	0.00E+00	5.06E-01	1.00E+00	1.51E+00
356	Securities, commodity contracts, investments, and related activities	0.00E+00	4.68E-01	1.46E+00	1.93E+00
357	Insurance carriers	0.00E+00	6.96E-02	2.07E-01	2.77E-01
358	Insurance agencies, brokerages, and related activities	0.00E+00	7.05E-02	1.83E-01	2.54E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	4.12E-03	2.45E-01	2.49E-01
360	Real estate establishments	0.00E+00	1.35E+00	2.54E+00	3.90E+00
362	Automotive equipment rental and leasing	0.00E+00	1.92E-01	1.45E-01	3.38E-01
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.47E-02	5.76E-02	7.22E-02
364	Video tape and disc rental	0.00E+00	0.00E+00	5.27E-02	5.27E-02
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.17E+00	2.49E-02	1.20E+00
366	Lessors of nonfinancial intangible assets	0.00E+00	5.68E-03	1.71E-03	7.39E-03
367	Legal services	0.00E+00	5.46E-01	2.32E-01	7.77E-01
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	7.25E-01	2.00E-01	9.25E-01
369	Architectural, engineering, and related services	7.18E+00	1.63E+01	2.37E-01	2.37E+01
370	Specialized design services	0.00E+00	1.35E-01	2.21E-02	1.57E-01
371	Custom computer programming services	0.00E+00	7.32E-02	1.72E-02	9.04E-02
372	Computer systems design services	0.00E+00	1.04E-01	2.73E-02	1.32E-01
373	Other computer related services, including facilities management	0.00E+00	3.73E-02	6.75E-03	4.41E-02
374	Management, scientific, and technical consulting services	0.00E+00	1.16E+00	4.37E-01	1.59E+00
375	Environmental and other technical consulting services	1.91E+00	2.56E-01	5.23E-02	2.21E+00
376	Scientific research and development services	0.00E+00	2.05E-01	1.06E-01	3.11E-01
377	Advertising and related services	0.00E+00	2.05E-01	1.84E-01	3.89E-01
378	Photographic services	0.00E+00	4.47E-02	3.06E-02	7.52E-02
379	Veterinary services	0.00E+00	3.46E-04	2.47E-01	2.47E-01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	7.88E-02	1.33E-02	9.21E-02
381	Management of companies and enterprises	0.00E+00	4.39E-01	1.82E-01	6.21E-01
382	Employment services	0.00E+00	1.08E+00	2.90E-01	1.37E+00
383	Travel arrangement and reservation services	0.00E+00	2.88E-02	1.85E-02	4.73E-02
384	Office administrative services	0.00E+00	1.88E-01	4.90E-02	2.38E-01
386	Business support services	0.00E+00	3.16E-01	1.45E-01	4.61E-01
387	Investigation and security services	0.00E+00	6.18E-01	3.68E-01	9.86E-01
388	Services to buildings and dwellings	0.00E+00	2.01E+00	8.86E-01	2.90E+00
389	Other support services	0.00E+00	9.42E-02	3.38E-02	1.28E-01
390	Waste management and remediation services	0.00E+00	1.81E-01	1.31E-01	3.13E-01
391	Private elementary and secondary schools	0.00E+00	0.00E+00	8.51E-01	8.51E-01
393	Other private educational services	0.00E+00	1.39E-02	8.73E-01	8.87E-01
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	3.82E-06	2.39E+00	2.39E+00
395	Home health care services	0.00E+00	0.00E+00	2.54E-01	2.54E-01
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	3.23E-04	9.78E-01	9.79E-01
397	Private hospitals	0.00E+00	3.20E-06	1.48E+00	1.48E+00
398	Nursing and residential care facilities	0.00E+00	0.00E+00	2.30E+00	2.30E+00
399	Child day care services	0.00E+00	0.00E+00	9.25E-01	9.25E-01
400	Individual and family services	0.00E+00	0.00E+00	6.38E-01	6.38E-01
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	9.25E-07	5.49E-01	5.49E-01
402	Performing arts companies	0.00E+00	3.37E-03	2.29E-02	2.63E-02
403	Spectator sports companies	0.00E+00	2.83E-01	6.44E-01	9.27E-01
404	Promoters of performing arts and sports and agents for	0.00E+00	1.06E-02	3.80E-02	4.86E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
	public figures				
405	Independent artists, writers, and performers	0.00E+00	6.26E-02	3.33E-02	9.59E-02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	2.25E-02	2.25E-02
407	Fitness and recreational sports centers	0.00E+00	1.05E-01	2.95E-01	4.00E-01
408	Bowling centers	0.00E+00	7.66E-05	1.21E-02	1.21E-02
409	Amusement parks, arcades, and gambling industries	0.00E+00	1.98E-04	3.02E-01	3.02E-01
410	Other amusement and recreation industries	0.00E+00	3.39E-02	2.20E-01	2.54E-01
411	Hotels and motels, including casino hotels	0.00E+00	1.19E-02	2.21E-02	3.41E-02
412	Other accommodations	0.00E+00	1.55E-05	3.81E-05	5.36E-05
413	Food services and drinking places	0.00E+00	1.64E+00	5.80E+00	7.44E+00
414	Automotive repair and maintenance, except car washes	0.00E+00	1.58E+00	5.58E-01	2.14E+00
415	Car washes	0.00E+00	9.89E-02	1.36E-01	2.35E-01
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.87E-01	4.14E-02	2.29E-01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.27E+00	8.48E-02	1.35E+00
418	Personal and household goods repair and maintenance	0.00E+00	9.67E-02	3.02E-02	1.27E-01
419	Personal care services	0.00E+00	1.73E-06	4.19E-01	4.19E-01
420	Death care services	0.00E+00	0.00E+00	1.88E-02	1.88E-02
421	Dry-cleaning and laundry services	0.00E+00	1.88E-02	1.21E-01	1.40E-01
422	Other personal services	0.00E+00	5.18E-02	2.72E-01	3.23E-01
423	Religious organizations	0.00E+00	0.00E+00	2.29E-01	2.29E-01
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.34E-04	3.60E-01	3.60E-01
425	Civic, social, professional, and similar organizations	0.00E+00	4.57E-01	7.93E-01	1.25E+00
426	Private household operations	0.00E+00	0.00E+00	1.88E+00	1.88E+00
427	US Postal Service	0.00E+00	2.21E-01	2.29E-01	4.50E-01
429	Other Federal Government enterprises	0.00E+00	1.19E-02	3.09E-02	4.28E-02
430	State and local government passenger transit	0.00E+00	9.04E-02	1.50E-01	2.40E-01
431	State and local government electric utilities	0.00E+00	2.84E-02	3.86E-02	6.69E-02
432	Other state and local government enterprises	0.00E+00	1.69E-01	5.04E-01	6.73E-01

Year 2 Construction – High Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.04E+07	2.57E+06	2.20E+06	1.52E+07
1	Oilseed farming	0.00E+00	4.22E+00	1.92E+01	2.35E+01
2	Grain farming	0.00E+00	7.51E+01	2.86E+02	3.61E+02
3	Vegetable and melon farming	0.00E+00	3.95E+01	4.86E+03	4.90E+03
4	Fruit farming	0.00E+00	5.17E+01	5.09E+03	5.14E+03
5	Tree nut farming	0.00E+00	9.51E+01	1.17E+03	1.27E+03
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.37E+01	1.75E+02	1.89E+02
9	Sugarcane and sugar beet farming	0.00E+00	7.99E-01	1.27E+00	2.07E+00
10	All other crop farming	0.00E+00	1.24E+04	3.88E+02	1.27E+04
11	Cattle ranching and farming	0.00E+00	4.06E+00	1.39E+01	1.79E+01
12	Dairy cattle and milk production	0.00E+00	6.58E+00	3.89E+01	4.55E+01
13	Poultry and egg production	0.00E+00	3.14E-01	4.82E+01	4.85E+01
14	Animal production, except cattle and poultry and eggs	0.00E+00	1.45E+01	2.31E+02	2.45E+02
15	Forestry, forest products, and timber tract production	0.00E+00	4.95E+02	1.71E+01	5.12E+02
18	Commercial hunting and trapping	0.00E+00	0.00E+00	1.27E+01	1.27E+01
19	Support activities for agriculture and forestry	0.00E+00	4.91E+03	3.52E+03	8.44E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	1.77E+03	9.44E+02	2.72E+03
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	6.42E+03	2.78E+02	6.70E+03
29	Support activities for oil and gas operations	0.00E+00	2.76E+02	6.91E+01	3.45E+02
31	Electric power generation, transmission, and distribution	0.00E+00	1.66E+04	2.26E+04	3.92E+04
32	Natural gas distribution	0.00E+00	2.62E+02	3.09E+02	5.71E+02
33	Water, sewage and other treatment and delivery systems	0.00E+00	2.19E+01	6.13E+01	8.32E+01
36	Construction of other new nonresidential structures	9.86E+06	0.00E+00	0.00E+00	9.86E+06
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.42E+04	2.16E+04	5.58E+04
40	Maintenance and repair construction of residential structures	0.00E+00	3.37E+02	7.91E+03	8.25E+03
41	Dog and cat food manufacturing	0.00E+00	1.34E-02	1.31E+01	1.31E+01
42	Other animal food manufacturing	0.00E+00	1.25E+01	2.34E+02	2.47E+02
43	Flour milling and malt manufacturing	0.00E+00	1.11E+01	4.56E+02	4.67E+02
52	Nonchocolate confectionery manufacturing	0.00E+00	7.09E-01	3.65E+01	3.72E+01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.90E+01	6.87E+02	7.06E+02
62	Bread and bakery product manufacturing	0.00E+00	1.04E+00	3.94E+01	4.05E+01
64	Tortilla manufacturing	0.00E+00	3.99E-02	3.47E+01	3.47E+01
69	All other food manufacturing	0.00E+00	7.42E+00	1.68E+02	1.75E+02
70	Soft drink and ice manufacturing	0.00E+00	1.03E+02	6.49E+03	6.60E+03
71	Breweries	0.00E+00	8.63E+00	6.51E+02	6.60E+02
72	Wineries	0.00E+00	1.38E+01	6.82E+02	6.96E+02
76	Broadwoven fabric mills	0.00E+00	1.80E+00	9.79E+00	1.16E+01
80	Textile and fabric finishing mills	0.00E+00	2.30E+01	5.07E+01	7.38E+01
84	Textile bag and canvas mills	0.00E+00	3.81E+00	1.12E+00	4.93E+00
85	All other textile product mills	0.00E+00	6.80E+01	2.13E+01	8.93E+01
87	Cut and sew apparel contractors	0.00E+00	7.03E+01	1.13E+02	1.84E+02
91	Apparel accessories and other apparel manufacturing	0.00E+00	8.20E-02	3.33E+00	3.41E+00
93	Footwear manufacturing	0.00E+00	1.04E-09	2.45E+01	2.45E+01
95	Sawmills and wood preservation	0.00E+00	1.92E+04	3.70E+02	1.95E+04
97	Engineered wood member and truss manufacturing	0.00E+00	5.32E+02	9.60E+00	5.42E+02
99	Wood windows and doors and millwork manufacturing	0.00E+00	6.18E+02	1.42E+01	6.32E+02
100	Wood container and pallet manufacturing	0.00E+00	5.78E+02	5.65E+02	1.14E+03
101	Manufactured home (mobile home) manufacturing	0.00E+00	4.94E+02	3.65E+00	4.98E+02
103	All other miscellaneous wood product manufacturing	0.00E+00	2.73E+01	1.76E+01	4.50E+01
107	Paperboard container manufacturing	0.00E+00	4.61E+03	9.58E+02	5.56E+03
113	Printing	0.00E+00	4.85E+03	4.21E+03	9.06E+03
114	Support activities for printing	0.00E+00	4.46E+00	1.61E+00	6.07E+00
130	Fertilizer manufacturing	0.00E+00	4.84E+03	2.28E+02	5.07E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	3.42E+02	6.87E+02	1.03E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	1.90E-01	5.48E+01	5.50E+01
134	In-vitro diagnostic substance manufacturing	0.00E+00	7.25E-01	2.10E+00	2.83E+00
135	Biological product (except diagnostic) manufacturing	0.00E+00	2.25E+01	9.38E+01	1.16E+02
140	Printing ink manufacturing	0.00E+00	7.03E+01	2.45E+01	9.49E+01
141	All other chemical product and preparation manufacturing	0.00E+00	1.66E+01	4.37E+00	2.10E+01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.11E+02	3.06E+01	1.41E+02
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	2.18E+02	3.99E+01	2.58E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	7.74E+02	9.01E+01	8.64E+02
150	Tire manufacturing	0.00E+00	7.40E+01	5.60E+01	1.30E+02
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.97E+04	3.73E+02	3.00E+04
163	Other concrete product manufacturing	0.00E+00	5.30E+04	7.86E+02	5.38E+04
167	Ground or treated mineral and earth manufacturing	0.00E+00	7.03E+02	3.01E+01	7.33E+02
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.35E+04	5.00E+01	1.36E+04
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.08E+04	5.37E+01	1.09E+04
187	Ornamental and architectural metal products manufacturing	0.00E+00	6.50E+03	1.17E+02	6.62E+03
194	Spring and wire product manufacturing	0.00E+00	4.31E+02	2.10E+01	4.52E+02
195	Machine shops	0.00E+00	1.30E+02	6.95E+00	1.37E+02
197	Coating, engraving, heat treating and allied activities	0.00E+00	2.20E+01	1.10E+00	2.31E+01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	7.75E+02	1.96E+01	7.95E+02
203	Farm machinery and equipment manufacturing	0.00E+00	3.71E+01	3.21E+00	4.03E+01
205	Construction machinery manufacturing	0.00E+00	8.54E+00	5.96E-02	8.60E+00
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.09E+01	7.80E-01	1.17E+01
207	Other industrial machinery manufacturing	0.00E+00	1.17E+00	1.44E+00	2.61E+00
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.94E-01	5.99E-02	2.54E-01
211	Optical instrument and lens manufacturing	0.00E+00	1.21E-01	1.17E-01	2.38E-01
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	2.75E-01	5.68E-02	3.32E-01
226	Pump and pumping equipment manufacturing	0.00E+00	1.27E+01	3.71E-01	1.31E+01
228	Material handling equipment manufacturing	0.00E+00	4.23E+01	3.49E-01	4.27E+01
233	Fluid power process machinery manufacturing	0.00E+00	1.37E+01	8.73E-01	1.46E+01
234	Electronic computer manufacturing	0.00E+00	7.14E-01	3.18E+00	3.90E+00
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	3.41E+01	3.31E+01	6.72E+01
237	Telephone apparatus manufacturing	0.00E+00	6.86E-01	8.42E-01	1.53E+00
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	5.75E-01	7.91E-01	1.37E+00
240	Audio and video equipment manufacturing	0.00E+00	1.12E+00	7.71E-01	1.89E+00
241	Electron tube manufacturing	0.00E+00	9.94E-01	5.55E-01	1.55E+00
243	Semiconductor and related device manufacturing	0.00E+00	4.00E+00	1.77E+00	5.77E+00
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	4.68E+00	2.13E+00	6.81E+00
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.68E-01	3.87E-01	6.55E-01
250	Automatic environmental control manufacturing	0.00E+00	9.05E+00	3.05E-01	9.35E+00
251	Industrial process variable instruments manufacturing	0.00E+00	2.50E+00	8.38E-01	3.34E+00
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.61E+00	1.66E+00	3.27E+00
253	Electricity and signal testing instruments manufacturing	0.00E+00	2.87E+00	1.56E-01	3.03E+00
269	Relay and industrial control manufacturing	0.00E+00	2.65E+00	3.42E-01	2.99E+00
273	Wiring device manufacturing	0.00E+00	2.30E+03	4.11E+01	2.34E+03
279	Motor vehicle body manufacturing	0.00E+00	1.68E+01	3.04E+00	1.98E+01
280	Truck trailer manufacturing	0.00E+00	6.31E+00	2.46E-01	6.56E+00
282	Travel trailer and camper manufacturing	0.00E+00	6.75E+01	7.54E+01	1.43E+02
283	Motor vehicle parts manufacturing	0.00E+00	1.53E+02	2.61E+01	1.79E+02
284	Aircraft manufacturing	0.00E+00	9.73E+00	2.10E-01	9.94E+00
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	3.44E-02	3.19E-01	3.53E-01
294	All other transportation equipment manufacturing	0.00E+00	1.77E+00	7.32E+00	9.09E+00
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	2.28E+01	9.43E+00	3.23E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	1.99E-01	3.58E+00	3.78E+00
300	Office Furniture	0.00E+00	3.08E+00	2.07E+01	2.38E+01
304	Blind and shade manufacturing	0.00E+00	5.67E+01	4.91E+01	1.06E+02
312	Doll, toy, and game manufacturing	0.00E+00	1.46E+00	1.81E+02	1.82E+02
313	Office supplies (except paper) manufacturing	0.00E+00	2.28E+00	2.92E+00	5.19E+00
317	All other miscellaneous manufacturing	0.00E+00	2.41E+01	1.13E+02	1.37E+02
319	Wholesale trade businesses	0.00E+00	1.33E+05	1.17E+05	2.50E+05
320	Retail Stores - Motor vehicle and parts	0.00E+00	2.85E+04	7.21E+04	1.01E+05
321	Retail Stores - Furniture and home furnishings	0.00E+00	3.12E+03	1.65E+04	1.97E+04
322	Retail Stores - Electronics and appliances	0.00E+00	1.47E+03	6.42E+03	7.88E+03
323	Retail Stores - Building material and garden supply	0.00E+00	1.71E+04	3.03E+04	4.74E+04
324	Retail Stores - Food and beverage	0.00E+00	2.02E+04	8.58E+04	1.06E+05
325	Retail Stores - Health and personal care	0.00E+00	6.60E+03	2.75E+04	3.41E+04
326	Retail Stores - Gasoline stations	0.00E+00	8.74E+03	2.90E+04	3.78E+04
327	Retail Stores - Clothing and clothing accessories	0.00E+00	2.33E+03	1.08E+04	1.31E+04
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	2.79E+03	1.27E+04	1.55E+04
329	Retail Stores - General merchandise	0.00E+00	1.67E+04	7.16E+04	8.83E+04
330	Retail Stores - Miscellaneous	0.00E+00	3.92E+03	1.74E+04	2.13E+04
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.64E+03	8.67E+03	1.03E+04
332	Transport by air	0.00E+00	4.84E-01	8.41E-01	1.33E+00
333	Transport by rail	0.00E+00	2.07E+03	4.37E+02	2.51E+03
334	Transport by water	0.00E+00	1.21E+02	7.78E+01	1.98E+02
335	Transport by truck	0.00E+00	1.23E+05	3.23E+04	1.55E+05
336	Transit and ground passenger transportation	0.00E+00	5.27E+03	8.72E+03	1.40E+04
337	Transport by pipeline	0.00E+00	3.98E+02	1.53E+02	5.51E+02
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.12E+04	8.46E+03	2.96E+04
339	Couriers and messengers	0.00E+00	1.53E+04	1.11E+04	2.64E+04
340	Warehousing and storage	0.00E+00	1.03E+04	1.20E+04	2.22E+04
341	Newspaper publishers	0.00E+00	2.55E+03	4.57E+03	7.12E+03
342	Periodical publishers	0.00E+00	2.97E+02	2.76E+02	5.73E+02
343	Book publishers	0.00E+00	1.36E+00	1.58E+01	1.71E+01
344	Directory, mailing list, and other publishers	0.00E+00	1.94E+02	2.19E+02	4.12E+02
345	Software publishers	0.00E+00	6.20E+01	1.42E+01	7.62E+01
346	Motion picture and video industries	0.00E+00	6.28E+02	1.07E+03	1.70E+03
347	Sound recording industries	0.00E+00	1.23E+01	1.86E+02	1.98E+02
348	Radio and television broadcasting	0.00E+00	1.13E+04	1.05E+04	2.18E+04
349	Cable and other subscription programming	0.00E+00	2.96E+02	2.53E+02	5.49E+02
350	Internet publishing and broadcasting	0.00E+00	2.23E+03	1.86E+03	4.09E+03
351	Telecommunications	0.00E+00	5.07E+04	3.08E+04	8.15E+04
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	3.90E+02	6.16E+02	1.01E+03
353	Other information services	0.00E+00	2.19E+01	3.41E+01	5.60E+01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	3.48E+04	3.62E+04	7.10E+04
355	Nondepository credit intermediation and related activities	0.00E+00	3.32E+04	6.59E+04	9.91E+04
356	Securities, commodity contracts, investments, and related activities	0.00E+00	3.06E+03	9.54E+03	1.26E+04
357	Insurance carriers	0.00E+00	5.05E+03	1.51E+04	2.01E+04
358	Insurance agencies, brokerages, and related activities	0.00E+00	6.12E+03	1.59E+04	2.20E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	1.51E+02	8.99E+03	9.14E+03
360	Real estate establishments	0.00E+00	3.04E+04	5.70E+04	8.74E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	0.00E+00	0.00E+00
362	Automotive equipment rental and leasing	0.00E+00	1.13E+04	8.54E+03	1.99E+04
363	General and consumer goods rental except video tapes and discs	0.00E+00	5.87E+02	2.30E+03	2.89E+03
364	Video tape and disc rental	0.00E+00	0.00E+00	8.58E+02	8.58E+02
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	9.33E+04	1.98E+03	9.53E+04
366	Lessors of nonfinancial intangible assets	0.00E+00	3.27E+02	9.82E+01	4.25E+02
367	Legal services	0.00E+00	2.04E+04	8.67E+03	2.91E+04
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	2.58E+04	7.10E+03	3.29E+04
369	Architectural, engineering, and related services	4.17E+05	9.47E+05	1.37E+04	1.38E+06
370	Specialized design services	0.00E+00	3.64E+03	5.95E+02	4.23E+03
371	Custom computer programming services	0.00E+00	5.27E+03	1.24E+03	6.50E+03
372	Computer systems design services	0.00E+00	5.91E+03	1.55E+03	7.46E+03
373	Other computer related services, including facilities management	0.00E+00	2.08E+03	3.77E+02	2.46E+03
374	Management, scientific, and technical consulting services	0.00E+00	6.50E+04	2.46E+04	8.96E+04
375	Environmental and other technical consulting services	1.10E+05	1.47E+04	3.01E+03	1.28E+05
376	Scientific research and development services	0.00E+00	1.33E+04	6.87E+03	2.02E+04
377	Advertising and related services	0.00E+00	6.43E+03	5.76E+03	1.22E+04
378	Photographic services	0.00E+00	1.41E+03	9.67E+02	2.38E+03
379	Veterinary services	0.00E+00	1.46E+01	1.04E+04	1.04E+04
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	3.94E+03	6.68E+02	4.61E+03
381	Management of companies and enterprises	0.00E+00	4.27E+04	1.77E+04	6.05E+04
382	Employment services	0.00E+00	2.95E+04	7.92E+03	3.74E+04
383	Travel arrangement and reservation services	0.00E+00	1.04E+03	6.66E+02	1.71E+03
384	Office administrative services	0.00E+00	1.39E+04	3.61E+03	1.75E+04
386	Business support services	0.00E+00	1.05E+04	4.82E+03	1.54E+04
387	Investigation and security services	0.00E+00	1.28E+04	7.63E+03	2.04E+04
388	Services to buildings and dwellings	0.00E+00	4.84E+04	2.13E+04	6.97E+04
389	Other support services	0.00E+00	2.84E+03	1.02E+03	3.86E+03
390	Waste management and remediation services	0.00E+00	1.34E+04	9.74E+03	2.32E+04
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.93E+04	1.93E+04
393	Other private educational services	0.00E+00	2.12E+02	1.33E+04	1.35E+04
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	3.71E-01	2.32E+05	2.32E+05
395	Home health care services	0.00E+00	0.00E+00	1.32E+04	1.32E+04
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	2.31E+01	7.00E+04	7.01E+04
397	Private hospitals	0.00E+00	3.14E-01	1.46E+05	1.46E+05
398	Nursing and residential care facilities	0.00E+00	0.00E+00	8.70E+04	8.70E+04
399	Child day care services	0.00E+00	0.00E+00	2.00E+04	2.00E+04
400	Individual and family services	0.00E+00	0.00E+00	2.46E+04	2.46E+04
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	3.10E-02	1.84E+04	1.84E+04
402	Performing arts companies	0.00E+00	2.32E+01	1.58E+02	1.81E+02
403	Spectator sports companies	0.00E+00	2.44E+03	5.55E+03	7.99E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	7.79E+01	2.79E+02	3.57E+02
405	Independent artists, writers, and performers	0.00E+00	4.27E+03	2.27E+03	6.54E+03
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	2.16E+02	2.16E+02
407	Fitness and recreational sports centers	0.00E+00	1.07E+03	3.00E+03	4.07E+03
408	Bowling centers	0.00E+00	8.71E-01	1.37E+02	1.38E+02
409	Amusement parks, arcades, and gambling industries	0.00E+00	3.66E+00	5.58E+03	5.58E+03
410	Other amusement and recreation industries	0.00E+00	9.46E+02	6.13E+03	7.07E+03
411	Hotels and motels, including casino hotels	0.00E+00	2.71E+02	5.02E+02	7.73E+02
412	Other accommodations	0.00E+00	3.46E-01	8.52E-01	1.20E+00
413	Food services and drinking places	0.00E+00	3.84E+04	1.36E+05	1.74E+05
414	Automotive repair and maintenance, except car washes	0.00E+00	9.33E+04	3.30E+04	1.26E+05
415	Car washes	0.00E+00	2.01E+03	2.76E+03	4.76E+03
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.45E+04	3.20E+03	1.77E+04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	7.81E+04	5.23E+03	8.33E+04
418	Personal and household goods repair and maintenance	0.00E+00	4.57E+03	1.43E+03	6.00E+03
419	Personal care services	0.00E+00	6.27E-02	1.52E+04	1.52E+04
420	Death care services	0.00E+00	0.00E+00	6.46E+02	6.46E+02
421	Dry-cleaning and laundry services	0.00E+00	1.25E+03	8.04E+03	9.29E+03
422	Other personal services	0.00E+00	2.72E+03	1.43E+04	1.70E+04
423	Religious organizations	0.00E+00	0.00E+00	7.28E+03	7.28E+03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.04E+01	2.79E+04	2.79E+04
425	Civic, social, professional, and similar organizations	0.00E+00	3.24E+04	5.63E+04	8.87E+04
426	Private household operations	0.00E+00	0.00E+00	2.21E+04	2.21E+04
427	US Postal Service	0.00E+00	2.36E+04	2.44E+04	4.80E+04
429	Other Federal Government enterprises	0.00E+00	8.05E+02	2.10E+03	2.90E+03
430	State and local government passenger transit	0.00E+00	6.89E+03	1.14E+04	1.83E+04
431	State and local government electric utilities	0.00E+00	4.28E+03	5.83E+03	1.01E+04
432	Other state and local government enterprises	0.00E+00	1.96E+04	5.87E+04	7.83E+04

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.27E+07	3.83E+06	4.54E+06	2.11E+07
1	Oilseed farming	0.00E+00	1.37E+01	6.24E+01	7.62E+01
2	Grain farming	0.00E+00	1.27E+02	4.85E+02	6.12E+02
3	Vegetable and melon farming	0.00E+00	4.57E+01	5.63E+03	5.68E+03
4	Fruit farming	0.00E+00	5.56E+01	5.47E+03	5.53E+03
5	Tree nut farming	0.00E+00	1.01E+02	1.25E+03	1.35E+03
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.28E+01	1.63E+02	1.75E+02
9	Sugarcane and sugar beet farming	0.00E+00	1.37E+00	2.19E+00	3.56E+00
10	All other crop farming	0.00E+00	1.44E+04	4.51E+02	1.48E+04
11	Cattle ranching and farming	0.00E+00	6.92E+00	2.37E+01	3.06E+01
12	Dairy cattle and milk production	0.00E+00	3.27E+01	1.93E+02	2.26E+02
13	Poultry and egg production	0.00E+00	4.24E-01	6.52E+01	6.56E+01
14	Animal production, except cattle and poultry and eggs	0.00E+00	3.50E+01	5.58E+02	5.93E+02
15	Forestry, forest products, and timber tract production	0.00E+00	1.11E+03	3.82E+01	1.14E+03
18	Commercial hunting and trapping	0.00E+00	0.00E+00	2.34E+01	2.34E+01
19	Support activities for agriculture and forestry	0.00E+00	4.82E+03	3.46E+03	8.29E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	4.29E+03	2.28E+03	6.57E+03
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	7.80E+03	3.38E+02	8.14E+03
29	Support activities for oil and gas operations	0.00E+00	2.92E+02	7.31E+01	3.65E+02
31	Electric power generation, transmission, and distribution	0.00E+00	6.34E+04	8.63E+04	1.50E+05
32	Natural gas distribution	0.00E+00	8.81E+02	1.04E+03	1.92E+03
33	Water, sewage and other treatment and delivery systems	0.00E+00	6.17E+01	1.73E+02	2.34E+02
36	Construction of other new nonresidential structures	1.22E+07	0.00E+00	0.00E+00	1.22E+07
39	Maintenance and repair construction of nonresidential structures	0.00E+00	4.24E+04	2.67E+04	6.91E+04
40	Maintenance and repair construction of residential structures	0.00E+00	4.09E+02	9.60E+03	1.00E+04
41	Dog and cat food manufacturing	0.00E+00	5.96E-02	5.83E+01	5.84E+01
42	Other animal food manufacturing	0.00E+00	2.94E+01	5.53E+02	5.82E+02
43	Flour milling and malt manufacturing	0.00E+00	2.59E+01	1.06E+03	1.09E+03
52	Nonchocolate confectionery manufacturing	0.00E+00	1.26E+00	6.49E+01	6.62E+01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	4.06E+01	1.47E+03	1.51E+03
62	Bread and bakery product manufacturing	0.00E+00	2.39E+00	9.05E+01	9.29E+01
64	Tortilla manufacturing	0.00E+00	1.51E-01	1.31E+02	1.31E+02
69	All other food manufacturing	0.00E+00	1.21E+01	2.74E+02	2.86E+02
70	Soft drink and ice manufacturing	0.00E+00	1.41E+02	8.82E+03	8.96E+03
71	Breweries	0.00E+00	4.18E+01	3.16E+03	3.20E+03
72	Wineries	0.00E+00	2.33E+01	1.15E+03	1.17E+03
76	Broadwoven fabric mills	0.00E+00	3.71E+00	2.02E+01	2.39E+01
80	Textile and fabric finishing mills	0.00E+00	3.35E+01	7.37E+01	1.07E+02
84	Textile bag and canvas mills	0.00E+00	5.57E+00	1.64E+00	7.21E+00
85	All other textile product mills	0.00E+00	1.15E+02	3.60E+01	1.51E+02
87	Cut and sew apparel contractors	0.00E+00	9.17E+01	1.48E+02	2.40E+02
91	Apparel accessories and other apparel manufacturing	0.00E+00	7.27E-02	2.96E+00	3.03E+00
93	Footwear manufacturing	0.00E+00	1.26E-09	2.99E+01	2.99E+01
95	Sawmills and wood preservation	0.00E+00	2.16E+04	4.17E+02	2.21E+04
97	Engineered wood member and truss manufacturing	0.00E+00	6.86E+02	1.24E+01	6.99E+02
99	Wood windows and doors and millwork manufacturing	0.00E+00	7.14E+02	1.64E+01	7.30E+02
100	Wood container and pallet manufacturing	0.00E+00	7.24E+02	7.07E+02	1.43E+03
101	Manufactured home (mobile home) manufacturing	0.00E+00	4.84E+02	3.58E+00	4.88E+02
103	All other miscellaneous wood product manufacturing	0.00E+00	4.58E+01	2.95E+01	7.53E+01
107	Paperboard container manufacturing	0.00E+00	6.29E+03	1.31E+03	7.60E+03
113	Printing	0.00E+00	5.91E+03	5.13E+03	1.10E+04
114	Support activities for printing	0.00E+00	5.17E+00	1.87E+00	7.04E+00
130	Fertilizer manufacturing	0.00E+00	7.47E+03	3.51E+02	7.82E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.17E+03	2.35E+03	3.52E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	1.28E+00	3.68E+02	3.69E+02
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.07E+00	3.09E+00	4.15E+00
135	Biological product (except diagnostic) manufacturing	0.00E+00	4.25E+01	1.77E+02	2.20E+02
140	Printing ink manufacturing	0.00E+00	6.32E+01	2.20E+01	8.52E+01
141	All other chemical product and preparation manufacturing	0.00E+00	2.18E+01	5.74E+00	2.75E+01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.71E+02	4.72E+01	2.18E+02
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	2.96E+02	5.41E+01	3.50E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	1.16E+03	1.35E+02	1.30E+03
150	Tire manufacturing	0.00E+00	1.08E+02	8.20E+01	1.90E+02
162	Concrete pipe, brick, and block manufacturing	0.00E+00	4.72E+04	5.92E+02	4.78E+04
163	Other concrete product manufacturing	0.00E+00	7.07E+04	1.05E+03	7.18E+04
167	Ground or treated mineral and earth manufacturing	0.00E+00	2.04E+03	8.71E+01	2.12E+03
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	2.69E+04	9.92E+01	2.70E+04
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.59E+04	7.89E+01	1.59E+04
187	Ornamental and architectural metal products manufacturing	0.00E+00	8.91E+03	1.60E+02	9.07E+03
194	Spring and wire product manufacturing	0.00E+00	7.70E+02	3.75E+01	8.08E+02
195	Machine shops	0.00E+00	1.59E+02	8.48E+00	1.67E+02
197	Coating, engraving, heat treating and allied activities	0.00E+00	3.34E+01	1.68E+00	3.50E+01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.60E+03	4.06E+01	1.64E+03
203	Farm machinery and equipment manufacturing	0.00E+00	8.52E+01	7.37E+00	9.26E+01
205	Construction machinery manufacturing	0.00E+00	1.38E+01	9.64E-02	1.39E+01
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.55E+01	1.11E+00	1.66E+01
207	Other industrial machinery manufacturing	0.00E+00	1.36E+00	1.67E+00	3.03E+00
208	Plastics and rubber industry machinery manufacturing	0.00E+00	2.83E-01	8.75E-02	3.70E-01
211	Optical instrument and lens manufacturing	0.00E+00	2.07E-01	2.01E-01	4.08E-01
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	3.60E-01	7.44E-02	4.34E-01
226	Pump and pumping equipment manufacturing	0.00E+00	2.45E+01	7.17E-01	2.52E+01
228	Material handling equipment manufacturing	0.00E+00	7.12E+01	5.87E-01	7.18E+01
233	Fluid power process machinery manufacturing	0.00E+00	2.14E+01	1.36E+00	2.27E+01
234	Electronic computer manufacturing	0.00E+00	1.96E+00	8.75E+00	1.07E+01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	4.05E+01	3.93E+01	7.98E+01
237	Telephone apparatus manufacturing	0.00E+00	1.41E+00	1.73E+00	3.14E+00
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	6.90E-01	9.50E-01	1.64E+00
240	Audio and video equipment manufacturing	0.00E+00	1.41E+00	9.73E-01	2.39E+00
241	Electron tube manufacturing	0.00E+00	8.14E-01	4.54E-01	1.27E+00
243	Semiconductor and related device manufacturing	0.00E+00	1.04E+01	4.62E+00	1.51E+01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	6.05E+00	2.76E+00	8.81E+00
249	Search, detection, and navigation instruments manufacturing	0.00E+00	4.13E-01	5.96E-01	1.01E+00
250	Automatic environmental control manufacturing	0.00E+00	1.40E+01	4.71E-01	1.44E+01
251	Industrial process variable instruments manufacturing	0.00E+00	3.02E+00	1.01E+00	4.03E+00
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	2.33E+00	2.39E+00	4.72E+00
253	Electricity and signal testing instruments manufacturing	0.00E+00	3.93E+00	2.14E-01	4.14E+00
269	Relay and industrial control manufacturing	0.00E+00	4.95E+00	6.40E-01	5.59E+00
273	Wiring device manufacturing	0.00E+00	4.83E+03	8.65E+01	4.92E+03
279	Motor vehicle body manufacturing	0.00E+00	2.40E+01	4.35E+00	2.83E+01
280	Truck trailer manufacturing	0.00E+00	6.69E+00	2.61E-01	6.95E+00
282	Travel trailer and camper manufacturing	0.00E+00	6.66E+01	7.44E+01	1.41E+02
283	Motor vehicle parts manufacturing	0.00E+00	2.49E+02	4.25E+01	2.92E+02
284	Aircraft manufacturing	0.00E+00	2.04E+01	4.41E-01	2.09E+01
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	9.78E-02	9.06E-01	1.00E+00
294	All other transportation equipment manufacturing	0.00E+00	3.92E+00	1.63E+01	2.02E+01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	2.10E+01	8.67E+00	2.97E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	2.65E-01	4.76E+00	5.03E+00
300	Office Furniture	0.00E+00	7.60E+00	5.11E+01	5.87E+01
304	Blind and shade manufacturing	0.00E+00	6.13E+01	5.30E+01	1.14E+02
312	Doll, toy, and game manufacturing	0.00E+00	2.33E+00	2.89E+02	2.91E+02
313	Office supplies (except paper) manufacturing	0.00E+00	4.17E+00	5.34E+00	9.51E+00
317	All other miscellaneous manufacturing	0.00E+00	3.82E+01	1.79E+02	2.17E+02
319	Wholesale trade businesses	0.00E+00	2.91E+05	2.56E+05	5.47E+05
320	Retail Stores - Motor vehicle and parts	0.00E+00	3.18E+04	8.06E+04	1.12E+05
321	Retail Stores - Furniture and home furnishings	0.00E+00	5.12E+03	2.71E+04	3.22E+04
322	Retail Stores - Electronics and appliances	0.00E+00	2.70E+03	1.18E+04	1.45E+04
323	Retail Stores - Building material and garden supply	0.00E+00	2.47E+04	4.39E+04	6.87E+04
324	Retail Stores - Food and beverage	0.00E+00	2.79E+04	1.18E+05	1.46E+05
325	Retail Stores - Health and personal care	0.00E+00	9.02E+03	3.77E+04	4.67E+04
326	Retail Stores - Gasoline stations	0.00E+00	1.23E+04	4.10E+04	5.33E+04
327	Retail Stores - Clothing and clothing accessories	0.00E+00	3.57E+03	1.66E+04	2.01E+04
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	4.56E+03	2.08E+04	2.54E+04
329	Retail Stores - General merchandise	0.00E+00	2.66E+04	1.14E+05	1.41E+05
330	Retail Stores - Miscellaneous	0.00E+00	6.38E+03	2.83E+04	3.47E+04
331	Retail Nonstores - Direct and electronic sales	0.00E+00	4.18E+03	2.22E+04	2.64E+04
332	Transport by air	0.00E+00	1.09E+01	1.90E+01	2.99E+01
333	Transport by rail	0.00E+00	3.58E+03	7.56E+02	4.33E+03
334	Transport by water	0.00E+00	2.84E+02	1.84E+02	4.68E+02
335	Transport by truck	0.00E+00	1.41E+05	3.72E+04	1.78E+05
336	Transit and ground passenger transportation	0.00E+00	6.78E+03	1.12E+04	1.80E+04
337	Transport by pipeline	0.00E+00	3.29E+02	1.26E+02	4.55E+02
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.43E+04	9.69E+03	3.39E+04
339	Couriers and messengers	0.00E+00	2.37E+04	1.72E+04	4.09E+04
340	Warehousing and storage	0.00E+00	1.30E+04	1.52E+04	2.82E+04
341	Newspaper publishers	0.00E+00	3.66E+03	6.57E+03	1.02E+04
342	Periodical publishers	0.00E+00	4.84E+02	4.50E+02	9.34E+02
343	Book publishers	0.00E+00	3.65E+00	4.23E+01	4.59E+01
344	Directory, mailing list, and other publishers	0.00E+00	4.85E+02	5.48E+02	1.03E+03
345	Software publishers	0.00E+00	2.13E+02	4.88E+01	2.62E+02
346	Motion picture and video industries	0.00E+00	4.80E+03	8.19E+03	1.30E+04
347	Sound recording industries	0.00E+00	9.80E+01	1.48E+03	1.58E+03
348	Radio and television broadcasting	0.00E+00	1.41E+04	1.32E+04	2.73E+04
349	Cable and other subscription programming	0.00E+00	9.78E+02	8.37E+02	1.82E+03
350	Internet publishing and broadcasting	0.00E+00	2.14E+03	1.78E+03	3.92E+03
351	Telecommunications	0.00E+00	2.04E+05	1.24E+05	3.27E+05
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	3.10E+03	4.89E+03	8.00E+03
353	Other information services	0.00E+00	3.17E+02	4.92E+02	8.09E+02
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.50E+05	1.56E+05	3.05E+05
355	Nondepository credit intermediation and related activities	0.00E+00	3.86E+04	7.64E+04	1.15E+05
356	Securities, commodity contracts, investments, and related activities	0.00E+00	3.96E+03	1.24E+04	1.63E+04
357	Insurance carriers	0.00E+00	1.60E+04	4.76E+04	6.35E+04
358	Insurance agencies, brokerages, and related activities	0.00E+00	7.38E+03	1.92E+04	2.66E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	5.70E+02	3.39E+04	3.44E+04
360	Real estate establishments	0.00E+00	2.52E+05	4.73E+05	7.24E+05
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	9.49E+05	9.49E+05
362	Automotive equipment rental and leasing	0.00E+00	3.14E+04	2.37E+04	5.51E+04
363	General and consumer goods rental except video tapes and discs	0.00E+00	7.63E+02	3.00E+03	3.76E+03
364	Video tape and disc rental	0.00E+00	0.00E+00	2.54E+03	2.54E+03
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	2.08E+05	4.42E+03	2.12E+05
366	Lessors of nonfinancial intangible assets	0.00E+00	1.09E+04	3.29E+03	1.42E+04
367	Legal services	0.00E+00	4.98E+04	2.12E+04	7.10E+04
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	4.27E+04	1.18E+04	5.45E+04
369	Architectural, engineering, and related services	4.28E+05	9.71E+05	1.41E+04	1.41E+06
370	Specialized design services	0.00E+00	1.22E+04	1.99E+03	1.41E+04
371	Custom computer programming services	0.00E+00	4.57E+03	1.07E+03	5.64E+03
372	Computer systems design services	0.00E+00	5.30E+02	1.39E+02	6.68E+02
373	Other computer related services, including facilities management	0.00E+00	8.01E+03	1.45E+03	9.46E+03
374	Management, scientific, and technical consulting services	0.00E+00	7.04E+04	2.66E+04	9.69E+04
375	Environmental and other technical consulting services	1.10E+05	1.48E+04	3.03E+03	1.28E+05
376	Scientific research and development services	0.00E+00	1.33E+04	6.88E+03	2.02E+04
377	Advertising and related services	0.00E+00	1.65E+04	1.48E+04	3.13E+04
378	Photographic services	0.00E+00	3.73E+03	2.56E+03	6.29E+03
379	Veterinary services	0.00E+00	1.46E+01	1.05E+04	1.05E+04
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.51E+04	2.56E+03	1.77E+04
381	Management of companies and enterprises	0.00E+00	5.03E+04	2.09E+04	7.12E+04
382	Employment services	0.00E+00	3.24E+04	8.71E+03	4.11E+04
383	Travel arrangement and reservation services	0.00E+00	2.30E+03	1.47E+03	3.77E+03
384	Office administrative services	0.00E+00	1.26E+04	3.29E+03	1.59E+04
386	Business support services	0.00E+00	1.04E+04	4.76E+03	1.51E+04
387	Investigation and security services	0.00E+00	1.32E+04	7.84E+03	2.10E+04
388	Services to buildings and dwellings	0.00E+00	6.78E+04	2.99E+04	9.76E+04
389	Other support services	0.00E+00	5.73E+03	2.06E+03	7.79E+03
390	Waste management and remediation services	0.00E+00	2.52E+04	1.82E+04	4.34E+04
391	Private elementary and secondary schools	0.00E+00	0.00E+00	7.91E+03	7.91E+03
393	Other private educational services	0.00E+00	2.02E+02	1.27E+04	1.29E+04
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	3.82E-01	2.39E+05	2.39E+05
395	Home health care services	0.00E+00	0.00E+00	1.34E+04	1.34E+04
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	3.06E+01	9.27E+04	9.27E+04
397	Private hospitals	0.00E+00	3.42E-01	1.58E+05	1.58E+05
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.00E+05	1.00E+05
399	Child day care services	0.00E+00	0.00E+00	2.67E+04	2.67E+04
400	Individual and family services	0.00E+00	0.00E+00	2.36E+04	2.36E+04
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	2.99E-02	1.77E+04	1.77E+04
402	Performing arts companies	0.00E+00	1.84E+01	1.25E+02	1.44E+02
403	Spectator sports companies	0.00E+00	2.84E+03	6.46E+03	9.30E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – Low Cost Estimate		Value Added			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.56E+02	5.59E+02	7.15E+02
405	Independent artists, writers, and performers	0.00E+00	7.65E+03	4.07E+03	1.17E+04
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.23E+03	1.23E+03
407	Fitness and recreational sports centers	0.00E+00	2.09E+03	5.85E+03	7.94E+03
408	Bowling centers	0.00E+00	2.58E+00	4.05E+02	4.08E+02
409	Amusement parks, arcades, and gambling industries	0.00E+00	1.26E+01	1.92E+04	1.92E+04
410	Other amusement and recreation industries	0.00E+00	1.74E+03	1.13E+04	1.30E+04
411	Hotels and motels, including casino hotels	0.00E+00	7.14E+02	1.33E+03	2.04E+03
412	Other accommodations	0.00E+00	5.39E-01	1.33E+00	1.87E+00
413	Food services and drinking places	0.00E+00	6.51E+04	2.30E+05	2.95E+05
414	Automotive repair and maintenance, except car washes	0.00E+00	1.08E+05	3.82E+04	1.46E+05
415	Car washes	0.00E+00	2.26E+03	3.11E+03	5.37E+03
416	Electronic and precision equipment repair and maintenance	0.00E+00	2.15E+04	4.75E+03	2.62E+04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.02E+05	6.85E+03	1.09E+05
418	Personal and household goods repair and maintenance	0.00E+00	6.37E+03	1.99E+03	8.36E+03
419	Personal care services	0.00E+00	6.80E-02	1.65E+04	1.65E+04
420	Death care services	0.00E+00	0.00E+00	4.60E+02	4.60E+02
421	Dry-cleaning and laundry services	0.00E+00	1.27E+03	8.20E+03	9.47E+03
422	Other personal services	0.00E+00	3.32E+03	1.74E+04	2.07E+04
423	Religious organizations	0.00E+00	0.00E+00	8.30E+03	8.30E+03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.01E+01	2.71E+04	2.71E+04
425	Civic, social, professional, and similar organizations	0.00E+00	3.24E+04	5.62E+04	8.86E+04
426	Private household operations	0.00E+00	0.00E+00	2.21E+04	2.21E+04
427	US Postal Service	0.00E+00	2.30E+04	2.38E+04	4.69E+04
429	Other Federal Government enterprises	0.00E+00	1.05E+03	2.73E+03	3.78E+03
430	State and local government passenger transit	0.00E+00	5.36E+02	8.86E+02	1.42E+03
431	State and local government electric utilities	0.00E+00	7.46E+03	1.01E+04	1.76E+04
432	Other state and local government enterprises	0.00E+00	1.67E+04	4.97E+04	6.64E+04

Year 2 Construction – High Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
0	Total	2.50E+07	6.75E+06	7.07E+06	3.88E+07
1	Oilseed farming	0.00E+00	3.03E+01	1.38E+02	1.69E+02
2	Grain farming	0.00E+00	5.71E+02	2.17E+03	2.74E+03
3	Vegetable and melon farming	0.00E+00	8.22E+01	1.01E+04	1.02E+04
4	Fruit farming	0.00E+00	9.59E+01	9.43E+03	9.53E+03
5	Tree nut farming	0.00E+00	1.69E+02	2.09E+03	2.26E+03
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.77E+01	2.25E+02	2.43E+02
9	Sugarcane and sugar beet farming	0.00E+00	3.02E+00	4.82E+00	7.84E+00
10	All other crop farming	0.00E+00	4.26E+04	1.34E+03	4.39E+04
11	Cattle ranching and farming	0.00E+00	3.92E+01	1.34E+02	1.73E+02
12	Dairy cattle and milk production	0.00E+00	8.41E+01	4.97E+02	5.81E+02
13	Poultry and egg production	0.00E+00	2.19E+00	3.37E+02	3.39E+02
14	Animal production, except cattle and poultry and eggs	0.00E+00	6.73E+01	1.07E+03	1.14E+03
15	Forestry, forest products, and timber tract production	0.00E+00	1.94E+03	6.71E+01	2.01E+03
18	Commercial hunting and trapping	0.00E+00	0.00E+00	5.41E+01	5.41E+01
19	Support activities for agriculture and forestry	0.00E+00	5.85E+03	4.20E+03	1.01E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	6.90E+03	3.67E+03	1.06E+04
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.35E+04	5.86E+02	1.41E+04
29	Support activities for oil and gas operations	0.00E+00	7.75E+02	1.94E+02	9.69E+02
31	Electric power generation, transmission, and distribution	0.00E+00	7.10E+04	9.66E+04	1.68E+05
32	Natural gas distribution	0.00E+00	2.06E+03	2.42E+03	4.48E+03
33	Water, sewage and other treatment and delivery systems	0.00E+00	7.74E+01	2.16E+02	2.94E+02
36	Construction of other new nonresidential structures	2.40E+07	0.00E+00	0.00E+00	2.40E+07
39	Maintenance and repair construction of nonresidential structures	0.00E+00	7.57E+04	4.78E+04	1.23E+05
40	Maintenance and repair construction of residential structures	0.00E+00	8.59E+02	2.01E+04	2.10E+04
41	Dog and cat food manufacturing	0.00E+00	1.62E-01	1.59E+02	1.59E+02
42	Other animal food manufacturing	0.00E+00	1.80E+02	3.39E+03	3.57E+03
43	Flour milling and malt manufacturing	0.00E+00	1.87E+02	7.63E+03	7.81E+03
52	Nonchocolate confectionery manufacturing	0.00E+00	4.34E+00	2.24E+02	2.28E+02
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.66E+02	6.02E+03	6.18E+03
62	Bread and bakery product manufacturing	0.00E+00	1.25E+01	4.74E+02	4.86E+02
64	Tortilla manufacturing	0.00E+00	6.73E-01	5.84E+02	5.84E+02
69	All other food manufacturing	0.00E+00	4.55E+01	1.03E+03	1.07E+03
70	Soft drink and ice manufacturing	0.00E+00	9.26E+02	5.81E+04	5.91E+04
71	Breweries	0.00E+00	9.45E+01	7.13E+03	7.22E+03
72	Wineries	0.00E+00	7.53E+01	3.71E+03	3.78E+03
76	Broadwoven fabric mills	0.00E+00	1.18E+01	6.42E+01	7.60E+01
80	Textile and fabric finishing mills	0.00E+00	1.21E+02	2.66E+02	3.87E+02
84	Textile bag and canvas mills	0.00E+00	1.18E+01	3.47E+00	1.53E+01
85	All other textile product mills	0.00E+00	3.11E+02	9.73E+01	4.08E+02
87	Cut and sew apparel contractors	0.00E+00	1.89E+02	3.05E+02	4.94E+02
91	Apparel accessories and other apparel manufacturing	0.00E+00	3.86E-01	1.57E+01	1.61E+01
93	Footwear manufacturing	0.00E+00	3.29E-09	7.78E+01	7.78E+01
95	Sawmills and wood preservation	0.00E+00	8.31E+04	1.60E+03	8.47E+04
97	Engineered wood member and truss manufacturing	0.00E+00	1.76E+03	3.17E+01	1.79E+03
99	Wood windows and doors and millwork manufacturing	0.00E+00	2.27E+03	5.20E+01	2.32E+03
100	Wood container and pallet manufacturing	0.00E+00	1.58E+03	1.54E+03	3.12E+03
101	Manufactured home (mobile home) manufacturing	0.00E+00	1.67E+03	1.23E+01	1.68E+03
103	All other miscellaneous wood product manufacturing	0.00E+00	1.12E+02	7.23E+01	1.85E+02
107	Paperboard container manufacturing	0.00E+00	2.79E+04	5.80E+03	3.37E+04
113	Printing	0.00E+00	1.52E+04	1.32E+04	2.84E+04
114	Support activities for printing	0.00E+00	9.73E+00	3.52E+00	1.32E+01
130	Fertilizer manufacturing	0.00E+00	5.49E+04	2.58E+03	5.75E+04
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	3.92E+03	7.88E+03	1.18E+04
133	Pharmaceutical preparation manufacturing	0.00E+00	4.28E+00	1.23E+03	1.24E+03
134	In-vitro diagnostic substance manufacturing	0.00E+00	6.14E+00	1.78E+01	2.39E+01
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.53E+02	6.38E+02	7.91E+02
140	Printing ink manufacturing	0.00E+00	2.50E+02	8.72E+01	3.37E+02
141	All other chemical product and preparation manufacturing	0.00E+00	7.40E+01	1.95E+01	9.35E+01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	5.10E+02	1.41E+02	6.51E+02
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	8.02E+02	1.47E+02	9.48E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
149	Other plastics product manufacturing	0.00E+00	3.33E+03	3.88E+02	3.72E+03
150	Tire manufacturing	0.00E+00	3.67E+02	2.78E+02	6.45E+02
162	Concrete pipe, brick, and block manufacturing	0.00E+00	1.01E+05	1.26E+03	1.02E+05
163	Other concrete product manufacturing	0.00E+00	1.41E+05	2.09E+03	1.43E+05
167	Ground or treated mineral and earth manufacturing	0.00E+00	4.35E+03	1.86E+02	4.53E+03
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	6.86E+04	2.53E+02	6.88E+04
186	Plate work and fabricated structural product manufacturing	0.00E+00	3.87E+04	1.93E+02	3.89E+04
187	Ornamental and architectural metal products manufacturing	0.00E+00	2.40E+04	4.30E+02	2.44E+04
194	Spring and wire product manufacturing	0.00E+00	1.67E+03	8.14E+01	1.75E+03
195	Machine shops	0.00E+00	3.08E+02	1.64E+01	3.25E+02
197	Coating, engraving, heat treating and allied activities	0.00E+00	7.75E+01	3.90E+00	8.14E+01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	3.24E+03	8.21E+01	3.32E+03
203	Farm machinery and equipment manufacturing	0.00E+00	3.15E+02	2.73E+01	3.42E+02
205	Construction machinery manufacturing	0.00E+00	6.43E+01	4.49E-01	6.47E+01
206	Mining and oil and gas field machinery manufacturing	0.00E+00	4.67E+01	3.34E+00	5.00E+01
207	Other industrial machinery manufacturing	0.00E+00	3.52E+00	4.32E+00	7.84E+00
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.32E+00	4.07E-01	1.72E+00
211	Optical instrument and lens manufacturing	0.00E+00	7.49E-01	7.25E-01	1.47E+00
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	1.02E+00	2.11E-01	1.23E+00
226	Pump and pumping equipment manufacturing	0.00E+00	8.31E+01	2.43E+00	8.55E+01
228	Material handling equipment manufacturing	0.00E+00	3.05E+02	2.52E+00	3.08E+02
233	Fluid power process machinery manufacturing	0.00E+00	5.81E+01	3.70E+00	6.18E+01
234	Electronic computer manufacturing	0.00E+00	3.50E+00	1.56E+01	1.91E+01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	7.87E+01	7.64E+01	1.55E+02
237	Telephone apparatus manufacturing	0.00E+00	3.79E+00	4.65E+00	8.44E+00
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	3.65E+00	5.02E+00	8.68E+00
240	Audio and video equipment manufacturing	0.00E+00	6.16E+00	4.24E+00	1.04E+01
241	Electron tube manufacturing	0.00E+00	2.68E+00	1.50E+00	4.18E+00
243	Semiconductor and related device manufacturing	0.00E+00	1.86E+01	8.23E+00	2.68E+01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	2.18E+01	9.92E+00	3.17E+01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.17E+00	1.69E+00	2.86E+00
250	Automatic environmental control manufacturing	0.00E+00	3.98E+01	1.34E+00	4.11E+01
251	Industrial process variable instruments manufacturing	0.00E+00	1.04E+01	3.49E+00	1.39E+01
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.13E+01	1.16E+01	2.29E+01
253	Electricity and signal testing instruments manufacturing	0.00E+00	9.00E+00	4.89E-01	9.49E+00
269	Relay and industrial control manufacturing	0.00E+00	1.24E+01	1.61E+00	1.41E+01
273	Wiring device manufacturing	0.00E+00	9.55E+03	1.71E+02	9.72E+03
279	Motor vehicle body manufacturing	0.00E+00	6.28E+01	1.14E+01	7.42E+01
280	Truck trailer manufacturing	0.00E+00	2.78E+01	1.08E+00	2.89E+01
282	Travel trailer and camper manufacturing	0.00E+00	3.58E+02	4.00E+02	7.57E+02
283	Motor vehicle parts manufacturing	0.00E+00	1.66E+03	2.83E+02	1.94E+03
284	Aircraft manufacturing	0.00E+00	9.00E+01	1.94E+00	9.19E+01
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	6.75E-01	6.25E+00	6.92E+00
294	All other transportation equipment manufacturing	0.00E+00	1.57E+01	6.51E+01	8.09E+01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	5.57E+01	2.30E+01	7.87E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
297	Nonupholstered wood household furniture manufacturing	0.00E+00	5.32E-01	9.57E+00	1.01E+01
300	Office Furniture	0.00E+00	1.73E+01	1.16E+02	1.33E+02
304	Blind and shade manufacturing	0.00E+00	2.05E+02	1.78E+02	3.83E+02
312	Doll, toy, and game manufacturing	0.00E+00	3.56E+00	4.41E+02	4.45E+02
313	Office supplies (except paper) manufacturing	0.00E+00	6.49E+00	8.31E+00	1.48E+01
317	All other miscellaneous manufacturing	0.00E+00	6.70E+01	3.13E+02	3.80E+02
319	Wholesale trade businesses	0.00E+00	3.67E+05	3.23E+05	6.90E+05
320	Retail Stores - Motor vehicle and parts	0.00E+00	5.23E+04	1.32E+05	1.85E+05
321	Retail Stores - Furniture and home furnishings	0.00E+00	7.61E+03	4.03E+04	4.79E+04
322	Retail Stores - Electronics and appliances	0.00E+00	5.26E+03	2.30E+04	2.82E+04
323	Retail Stores - Building material and garden supply	0.00E+00	3.48E+04	6.19E+04	9.67E+04
324	Retail Stores - Food and beverage	0.00E+00	3.61E+04	1.53E+05	1.89E+05
325	Retail Stores - Health and personal care	0.00E+00	1.30E+04	5.44E+04	6.74E+04
326	Retail Stores - Gasoline stations	0.00E+00	1.57E+04	5.23E+04	6.80E+04
327	Retail Stores - Clothing and clothing accessories	0.00E+00	6.24E+03	2.89E+04	3.52E+04
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	7.01E+03	3.20E+04	3.90E+04
329	Retail Stores - General merchandise	0.00E+00	3.42E+04	1.47E+05	1.81E+05
330	Retail Stores - Miscellaneous	0.00E+00	9.87E+03	4.38E+04	5.37E+04
331	Retail Nonstores - Direct and electronic sales	0.00E+00	7.69E+03	4.08E+04	4.85E+04
332	Transport by air	0.00E+00	6.66E+01	1.16E+02	1.82E+02
333	Transport by rail	0.00E+00	6.38E+03	1.35E+03	7.73E+03
334	Transport by water	0.00E+00	6.62E+02	4.27E+02	1.09E+03
335	Transport by truck	0.00E+00	2.34E+05	6.15E+04	2.95E+05
336	Transit and ground passenger transportation	0.00E+00	8.33E+03	1.38E+04	2.21E+04
337	Transport by pipeline	0.00E+00	1.94E+03	7.44E+02	2.69E+03
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	3.96E+04	1.58E+04	5.54E+04
339	Couriers and messengers	0.00E+00	3.00E+04	2.18E+04	5.18E+04
340	Warehousing and storage	0.00E+00	2.06E+04	2.41E+04	4.47E+04
341	Newspaper publishers	0.00E+00	7.17E+03	1.29E+04	2.00E+04
342	Periodical publishers	0.00E+00	1.37E+03	1.27E+03	2.64E+03
343	Book publishers	0.00E+00	8.27E+00	9.60E+01	1.04E+02
344	Directory, mailing list, and other publishers	0.00E+00	1.15E+03	1.30E+03	2.46E+03
345	Software publishers	0.00E+00	3.38E+02	7.73E+01	4.15E+02
346	Motion picture and video industries	0.00E+00	9.10E+03	1.55E+04	2.46E+04
347	Sound recording industries	0.00E+00	2.69E+02	4.07E+03	4.34E+03
348	Radio and television broadcasting	0.00E+00	3.73E+04	3.49E+04	7.23E+04
349	Cable and other subscription programming	0.00E+00	3.44E+03	2.94E+03	6.38E+03
350	Internet publishing and broadcasting	0.00E+00	5.38E+03	4.48E+03	9.86E+03
351	Telecommunications	0.00E+00	3.58E+05	2.17E+05	5.75E+05
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	4.38E+03	6.92E+03	1.13E+04
353	Other information services	0.00E+00	4.15E+02	6.45E+02	1.06E+03
354	Monetary authorities and depository credit intermediation activities	0.00E+00	3.19E+05	3.32E+05	6.51E+05
355	Nondepository credit intermediation and related activities	0.00E+00	7.19E+04	1.42E+05	2.14E+05
356	Securities, commodity contracts, investments, and related activities	0.00E+00	4.88E+04	1.52E+05	2.01E+05
357	Insurance carriers	0.00E+00	2.43E+04	7.26E+04	9.69E+04
358	Insurance agencies, brokerages, and related activities	0.00E+00	1.08E+04	2.81E+04	3.89E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
359	Funds, trusts, and other financial vehicles	0.00E+00	1.34E+03	7.97E+04	8.10E+04
360	Real estate establishments	0.00E+00	2.91E+05	5.46E+05	8.36E+05
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	1.08E+06	1.08E+06
362	Automotive equipment rental and leasing	0.00E+00	5.10E+04	3.84E+04	8.94E+04
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.46E+03	5.73E+03	7.19E+03
364	Video tape and disc rental	0.00E+00	0.00E+00	4.69E+03	4.69E+03
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	3.89E+05	8.27E+03	3.98E+05
366	Lessors of nonfinancial intangible assets	0.00E+00	1.36E+04	4.08E+03	1.76E+04
367	Legal services	0.00E+00	7.10E+04	3.02E+04	1.01E+05
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	6.47E+04	1.78E+04	8.26E+04
369	Architectural, engineering, and related services	8.10E+05	1.84E+06	2.67E+04	2.68E+06
370	Specialized design services	0.00E+00	1.56E+04	2.55E+03	1.82E+04
371	Custom computer programming services	0.00E+00	8.15E+03	1.91E+03	1.01E+04
372	Computer systems design services	0.00E+00	4.72E+03	1.24E+03	5.95E+03
373	Other computer related services, including facilities management	0.00E+00	1.08E+04	1.96E+03	1.28E+04
374	Management, scientific, and technical consulting services	0.00E+00	1.24E+05	4.70E+04	1.71E+05
375	Environmental and other technical consulting services	1.80E+05	2.42E+04	4.94E+03	2.09E+05
376	Scientific research and development services	0.00E+00	3.09E+04	1.60E+04	4.69E+04
377	Advertising and related services	0.00E+00	2.49E+04	2.23E+04	4.72E+04
378	Photographic services	0.00E+00	4.82E+03	3.30E+03	8.11E+03
379	Veterinary services	0.00E+00	2.37E+01	1.70E+04	1.70E+04
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.89E+04	3.21E+03	2.21E+04
381	Management of companies and enterprises	0.00E+00	8.46E+04	3.51E+04	1.20E+05
382	Employment services	0.00E+00	4.17E+04	1.12E+04	5.29E+04
383	Travel arrangement and reservation services	0.00E+00	4.30E+03	2.75E+03	7.05E+03
384	Office administrative services	0.00E+00	2.25E+04	5.85E+03	2.83E+04
386	Business support services	0.00E+00	1.84E+04	8.43E+03	2.68E+04
387	Investigation and security services	0.00E+00	2.23E+04	1.33E+04	3.55E+04
388	Services to buildings and dwellings	0.00E+00	1.35E+05	5.96E+04	1.95E+05
389	Other support services	0.00E+00	1.02E+04	3.67E+03	1.39E+04
390	Waste management and remediation services	0.00E+00	4.06E+04	2.94E+04	7.00E+04
391	Private elementary and secondary schools	0.00E+00	0.00E+00	3.24E+04	3.24E+04
393	Other private educational services	0.00E+00	5.87E+02	3.70E+04	3.76E+04
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	5.81E-01	3.64E+05	3.64E+05
395	Home health care services	0.00E+00	0.00E+00	1.85E+04	1.85E+04
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	5.60E+01	1.69E+05	1.69E+05
397	Private hospitals	0.00E+00	5.58E-01	2.59E+05	2.59E+05
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.52E+05	1.52E+05
399	Child day care services	0.00E+00	0.00E+00	4.45E+04	4.45E+04
400	Individual and family services	0.00E+00	0.00E+00	3.32E+04	3.32E+04
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	4.89E-02	2.90E+04	2.90E+04
402	Performing arts companies	0.00E+00	8.36E+01	5.68E+02	6.52E+02
403	Spectator sports companies	0.00E+00	1.11E+04	2.52E+04	3.63E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Year 2 Construction – High Cost Estimate		Output			
ID	Description	Direct	Indirect	Induced	Total
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	5.81E+02	2.08E+03	2.66E+03
405	Independent artists, writers, and performers	0.00E+00	1.44E+04	7.68E+03	2.21E+04
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	2.73E+03	2.73E+03
407	Fitness and recreational sports centers	0.00E+00	4.31E+03	1.20E+04	1.64E+04
408	Bowling centers	0.00E+00	4.46E+00	7.02E+02	7.07E+02
409	Amusement parks, arcades, and gambling industries	0.00E+00	2.21E+01	3.37E+04	3.37E+04
410	Other amusement and recreation industries	0.00E+00	2.78E+03	1.80E+04	2.08E+04
411	Hotels and motels, including casino hotels	0.00E+00	1.37E+03	2.55E+03	3.92E+03
412	Other accommodations	0.00E+00	1.32E+00	3.26E+00	4.58E+00
413	Food services and drinking places	0.00E+00	1.23E+05	4.36E+05	5.59E+05
414	Automotive repair and maintenance, except car washes	0.00E+00	1.83E+05	6.48E+04	2.48E+05
415	Car washes	0.00E+00	4.23E+03	5.81E+03	1.00E+04
416	Electronic and precision equipment repair and maintenance	0.00E+00	3.59E+04	7.95E+03	4.38E+04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.44E+05	9.68E+03	1.54E+05
418	Personal and household goods repair and maintenance	0.00E+00	1.82E+04	5.69E+03	2.39E+04
419	Personal care services	0.00E+00	1.27E-01	3.08E+04	3.08E+04
420	Death care services	0.00E+00	0.00E+00	1.26E+03	1.26E+03
421	Dry-cleaning and laundry services	0.00E+00	1.59E+03	1.02E+04	1.18E+04
422	Other personal services	0.00E+00	8.98E+03	4.71E+04	5.61E+04
423	Religious organizations	0.00E+00	0.00E+00	3.74E+04	3.74E+04
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.91E+01	5.11E+04	5.11E+04
425	Civic, social, professional, and similar organizations	0.00E+00	5.83E+04	1.01E+05	1.60E+05
426	Private household operations	0.00E+00	0.00E+00	2.26E+04	2.26E+04
427	US Postal Service	0.00E+00	2.74E+04	2.84E+04	5.59E+04
429	Other Federal Government enterprises	0.00E+00	5.28E+03	1.38E+04	1.90E+04
430	State and local government passenger transit	0.00E+00	5.39E+03	8.92E+03	1.43E+04
431	State and local government electric utilities	0.00E+00	1.28E+04	1.74E+04	3.02E+04
432	Other state and local government enterprises	0.00E+00	5.45E+04	1.63E+05	2.17E+05

Annual Site O&M		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.43E+00	1.01E-01	2.81E-01	1.81E+00
1	Oilseed farming	0.00E+00	7.47E-07	5.80E-06	6.54E-06
2	Grain farming	0.00E+00	1.64E-04	1.52E-04	3.16E-04
3	Vegetable and melon farming	0.00E+00	2.97E-07	1.32E-04	1.33E-04
4	Fruit farming	0.00E+00	8.34E-07	1.63E-04	1.64E-04
5	Tree nut farming	0.00E+00	4.00E-06	8.99E-05	9.39E-05
6	Greenhouse, nursery, and floriculture production	0.00E+00	3.19E-05	3.57E-06	3.54E-05
9	Sugarcane and sugar beet farming	0.00E+00	4.73E-07	6.65E-07	1.14E-06
10	All other crop farming	0.00E+00	3.89E-04	2.29E-05	4.12E-04
11	Cattle ranching and farming	0.00E+00	2.65E-04	3.68E-06	2.68E-04
12	Dairy cattle and milk production	0.00E+00	1.96E-06	1.27E-05	1.47E-05
13	Poultry and egg production	0.00E+00	3.14E-09	1.31E-06	1.31E-06
14	Animal production, except cattle and poultry and eggs	0.00E+00	1.17E-03	6.25E-05	1.23E-03
15	Forestry, forest products, and timber tract production	0.00E+00	4.25E-05	1.36E-06	4.38E-05
18	Commercial hunting and trapping	0.00E+00	0.00E+00	2.96E-06	2.96E-06
19	Support activities for agriculture and forestry	1.19E+00	5.21E-04	4.77E-04	1.19E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	9.77E-05	9.44E-05	1.92E-04
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.27E-04	2.34E-05	1.50E-04
29	Support activities for oil and gas operations	0.00E+00	5.52E-06	5.24E-06	1.08E-05
31	Electric power generation, transmission, and distribution	0.00E+00	3.30E-04	6.71E-04	1.00E-03
32	Natural gas distribution	0.00E+00	2.51E-05	1.12E-05	3.62E-05
33	Water, sewage and other treatment and delivery systems	0.00E+00	3.20E-07	4.57E-06	4.89E-06
39	Maintenance and repair construction of nonresidential structures	2.35E-01	1.63E-03	1.60E-03	2.38E-01
40	Maintenance and repair construction of residential structures	0.00E+00	1.44E-05	7.54E-04	7.68E-04
41	Dog and cat food manufacturing	0.00E+00	1.31E-08	6.47E-07	6.60E-07
42	Other animal food manufacturing	0.00E+00	1.34E-04	1.62E-05	1.51E-04
43	Flour milling and malt manufacturing	0.00E+00	6.09E-05	3.71E-05	9.79E-05
52	Nonchocolate confectionery manufacturing	0.00E+00	2.21E-07	3.15E-06	3.37E-06
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	4.88E-07	6.23E-05	6.28E-05
62	Bread and bakery product manufacturing	0.00E+00	1.28E-07	1.81E-05	1.82E-05
64	Tortilla manufacturing	0.00E+00	4.96E-09	1.63E-05	1.63E-05
69	All other food manufacturing	0.00E+00	3.19E-07	1.67E-05	1.70E-05
70	Soft drink and ice manufacturing	0.00E+00	1.87E-06	4.22E-04	4.24E-04
71	Breweries	0.00E+00	1.11E-07	3.13E-05	3.14E-05
72	Wineries	0.00E+00	2.38E-07	4.36E-05	4.39E-05
76	Broadwoven fabric mills	0.00E+00	1.29E-07	1.46E-06	1.59E-06
80	Textile and fabric finishing mills	0.00E+00	2.19E-06	7.77E-06	9.97E-06
84	Textile bag and canvas mills	0.00E+00	2.24E-06	1.29E-07	2.37E-06
85	All other textile product mills	0.00E+00	2.32E-05	3.17E-06	2.63E-05
87	Cut and sew apparel contractors	0.00E+00	6.64E-06	2.64E-05	3.30E-05
91	Apparel accessories and other apparel manufacturing	0.00E+00	9.73E-08	8.06E-07	9.03E-07
93	Footwear manufacturing	0.00E+00	8.49E-17	3.08E-06	3.08E-06
95	Sawmills and wood preservation	0.00E+00	1.02E-03	3.62E-05	1.06E-03
97	Engineered wood member and truss manufacturing	0.00E+00	1.25E-05	1.15E-06	1.37E-05
99	Wood windows and doors and millwork manufacturing	0.00E+00	3.03E-05	1.75E-06	3.21E-05
100	Wood container and pallet manufacturing	0.00E+00	3.64E-05	5.92E-05	9.55E-05
101	Manufactured home (mobile home) manufacturing	0.00E+00	4.71E-05	4.65E-07	4.76E-05
103	All other miscellaneous wood product manufacturing	0.00E+00	6.94E-06	2.32E-06	9.26E-06
107	Paperboard container manufacturing	0.00E+00	1.65E-04	8.41E-05	2.49E-04
113	Printing	0.00E+00	2.08E-04	4.54E-04	6.62E-04
114	Support activities for printing	0.00E+00	2.65E-07	1.76E-07	4.42E-07
130	Fertilizer manufacturing	0.00E+00	3.18E-03	1.13E-05	3.19E-03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.17E-03	3.01E-05	1.20E-03
133	Pharmaceutical preparation manufacturing	0.00E+00	1.74E-07	5.03E-06	5.20E-06
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.02E-07	2.48E-07	3.51E-07
135	Biological product (except diagnostic) manufacturing	0.00E+00	6.50E-05	4.77E-06	6.97E-05
140	Printing ink manufacturing	0.00E+00	1.36E-06	1.12E-06	2.48E-06
141	All other chemical product and preparation manufacturing	0.00E+00	6.81E-07	1.93E-07	8.74E-07
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	3.29E-06	2.13E-06	5.42E-06
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	9.46E-06	2.82E-06	1.23E-05
149	Other plastics product manufacturing	0.00E+00	4.23E-05	9.26E-06	5.16E-05

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
150	Tire manufacturing	0.00E+00	6.83E-06	5.05E-06	1.19E-05
162	Concrete pipe, brick, and block manufacturing	0.00E+00	1.79E-04	2.28E-05	2.02E-04
163	Other concrete product manufacturing	0.00E+00	4.42E-04	5.17E-05	4.94E-04
167	Ground or treated mineral and earth manufacturing	0.00E+00	1.27E-04	1.57E-06	1.29E-04
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	4.32E-05	3.40E-06	4.66E-05
186	Plate work and fabricated structural product manufacturing	0.00E+00	5.89E-05	4.07E-06	6.30E-05
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.91E-04	1.24E-05	2.03E-04
194	Spring and wire product manufacturing	0.00E+00	1.05E-05	2.10E-06	1.26E-05
195	Machine shops	0.00E+00	4.42E-06	6.23E-07	5.05E-06
197	Coating, engraving, heat treating and allied activities	0.00E+00	8.87E-07	1.18E-07	1.00E-06
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.11E-05	1.45E-06	1.26E-05
203	Farm machinery and equipment manufacturing	0.00E+00	1.44E-06	3.13E-07	1.75E-06
205	Construction machinery manufacturing	0.00E+00	1.67E-07	4.42E-09	1.71E-07
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.07E-06	3.59E-08	1.11E-06
207	Other industrial machinery manufacturing	0.00E+00	9.50E-08	9.94E-08	1.94E-07
208	Plastics and rubber industry machinery manufacturing	0.00E+00	1.53E-08	1.05E-08	2.58E-08
211	Optical instrument and lens manufacturing	0.00E+00	1.40E-08	1.47E-08	2.88E-08
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	1.94E-08	1.06E-08	3.00E-08
226	Pump and pumping equipment manufacturing	0.00E+00	5.92E-07	3.60E-08	6.28E-07
228	Material handling equipment manufacturing	0.00E+00	2.67E-07	4.33E-08	3.11E-07
233	Fluid power process machinery manufacturing	0.00E+00	2.78E-07	7.80E-08	3.56E-07
234	Electronic computer manufacturing	0.00E+00	4.57E-09	6.61E-08	7.07E-08
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	4.93E-07	1.15E-06	1.64E-06
237	Telephone apparatus manufacturing	0.00E+00	8.98E-09	3.72E-08	4.62E-08
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	3.15E-09	6.05E-08	6.36E-08
240	Audio and video equipment manufacturing	0.00E+00	3.05E-08	5.68E-08	8.74E-08
241	Electron tube manufacturing	0.00E+00	1.68E-08	3.02E-08	4.70E-08
243	Semiconductor and related device manufacturing	0.00E+00	1.53E-07	6.86E-08	2.21E-07
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	6.00E-07	2.26E-07	8.26E-07
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.52E-08	2.39E-08	3.91E-08
250	Automatic environmental control manufacturing	0.00E+00	1.93E-07	2.86E-08	2.22E-07
251	Industrial process variable instruments manufacturing	0.00E+00	9.85E-08	7.39E-08	1.72E-07
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.56E-07	1.57E-07	3.13E-07
253	Electricity and signal testing instruments manufacturing	0.00E+00	4.74E-08	8.22E-09	5.56E-08
269	Relay and industrial control manufacturing	0.00E+00	9.25E-08	2.98E-08	1.22E-07
273	Wiring device manufacturing	0.00E+00	5.21E-05	3.17E-06	5.53E-05
279	Motor vehicle body manufacturing	0.00E+00	2.98E-07	1.73E-07	4.71E-07
280	Truck trailer manufacturing	0.00E+00	7.30E-08	2.48E-08	9.78E-08
282	Travel trailer and camper manufacturing	0.00E+00	9.84E-07	1.06E-05	1.16E-05
283	Motor vehicle parts manufacturing	0.00E+00	1.09E-05	4.81E-06	1.57E-05
284	Aircraft manufacturing	0.00E+00	2.78E-09	1.81E-08	2.09E-08
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.95E-09	6.44E-08	6.64E-08
294	All other transportation equipment manufacturing	0.00E+00	3.24E-08	7.37E-07	7.69E-07
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	2.35E-06	9.36E-07	3.29E-06
297	Nonupholstered wood household furniture manufacturing	0.00E+00	6.47E-09	3.92E-07	3.99E-07

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
300	Office Furniture	0.00E+00	2.18E-08	2.69E-06	2.71E-06
304	Blind and shade manufacturing	0.00E+00	4.58E-06	7.41E-06	1.20E-05
312	Doll, toy, and game manufacturing	0.00E+00	8.41E-09	4.80E-06	4.80E-06
313	Office supplies (except paper) manufacturing	0.00E+00	2.15E-07	1.98E-07	4.12E-07
317	All other miscellaneous manufacturing	0.00E+00	4.14E-07	6.98E-06	7.40E-06
319	Wholesale trade businesses	0.00E+00	8.98E-03	1.24E-02	2.14E-02
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.65E-03	6.39E-03	8.04E-03
321	Retail Stores - Furniture and home furnishings	0.00E+00	2.47E-04	2.01E-03	2.25E-03
322	Retail Stores - Electronics and appliances	0.00E+00	1.76E-04	1.18E-03	1.35E-03
323	Retail Stores - Building material and garden supply	0.00E+00	1.28E-03	3.47E-03	4.75E-03
324	Retail Stores - Food and beverage	0.00E+00	1.55E-03	1.01E-02	1.16E-02
325	Retail Stores - Health and personal care	0.00E+00	5.12E-04	3.27E-03	3.78E-03
326	Retail Stores - Gasoline stations	0.00E+00	2.48E-04	1.26E-03	1.51E-03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	3.36E-04	2.38E-03	2.72E-03
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	4.18E-04	2.92E-03	3.33E-03
329	Retail Stores - General merchandise	0.00E+00	1.83E-03	1.20E-02	1.38E-02
330	Retail Stores - Miscellaneous	0.00E+00	5.55E-04	3.77E-03	4.33E-03
331	Retail Nonstores - Direct and electronic sales	0.00E+00	4.44E-04	3.60E-03	4.04E-03
332	Transport by air	0.00E+00	7.88E-07	3.32E-06	4.11E-06
333	Transport by rail	0.00E+00	1.32E-04	2.35E-05	1.55E-04
334	Transport by water	0.00E+00	4.89E-06	4.71E-06	9.61E-06
335	Transport by truck	0.00E+00	5.80E-03	2.27E-03	8.06E-03
336	Transit and ground passenger transportation	0.00E+00	1.91E-04	9.89E-04	1.18E-03
337	Transport by pipeline	0.00E+00	8.21E-06	7.65E-06	1.59E-05
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	7.03E-04	7.01E-04	1.40E-03
339	Couriers and messengers	0.00E+00	6.27E-04	1.00E-03	1.63E-03
340	Warehousing and storage	0.00E+00	5.92E-04	1.23E-03	1.82E-03
341	Newspaper publishers	0.00E+00	1.19E-04	5.25E-04	6.44E-04
342	Periodical publishers	0.00E+00	9.40E-06	2.23E-05	3.17E-05
343	Book publishers	0.00E+00	4.82E-08	1.49E-06	1.54E-06
344	Directory, mailing list, and other publishers	0.00E+00	6.36E-06	1.82E-05	2.45E-05
345	Software publishers	0.00E+00	1.20E-06	8.51E-07	2.05E-06
346	Motion picture and video industries	0.00E+00	5.92E-05	3.03E-04	3.62E-04
347	Sound recording industries	0.00E+00	4.07E-07	1.68E-05	1.73E-05
348	Radio and television broadcasting	0.00E+00	3.85E-04	8.89E-04	1.27E-03
349	Cable and other subscription programming	0.00E+00	1.97E-05	4.99E-05	6.96E-05
350	Internet publishing and broadcasting	0.00E+00	4.10E-05	1.04E-04	1.45E-04
351	Telecommunications	0.00E+00	1.12E-03	2.43E-03	3.56E-03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	2.19E-05	1.11E-04	1.33E-04
353	Other information services	0.00E+00	8.21E-07	4.72E-06	5.54E-06
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.51E-03	4.33E-03	5.85E-03
355	Nondepository credit intermediation and related activities	0.00E+00	1.29E-03	5.71E-03	7.00E-03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	1.02E-03	8.34E-03	9.35E-03
357	Insurance carriers	0.00E+00	1.62E-04	1.18E-03	1.34E-03
358	Insurance agencies, brokerages, and related activities	0.00E+00	1.70E-04	1.04E-03	1.21E-03
359	Funds, trusts, and other financial vehicles	0.00E+00	7.06E-06	1.38E-03	1.39E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
360	Real estate establishments	0.00E+00	2.45E-03	1.46E-02	1.70E-02
362	Automotive equipment rental and leasing	0.00E+00	4.93E-04	8.25E-04	1.32E-03
363	General and consumer goods rental except video tapes and discs	0.00E+00	3.04E-05	3.27E-04	3.57E-04
364	Video tape and disc rental	0.00E+00	0.00E+00	2.99E-04	2.99E-04
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.94E-03	1.42E-04	2.09E-03
366	Lessors of nonfinancial intangible assets	0.00E+00	1.53E-05	9.72E-06	2.50E-05
367	Legal services	0.00E+00	1.57E-03	1.32E-03	2.89E-03
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.86E-03	1.14E-03	3.00E-03
369	Architectural, engineering, and related services	0.00E+00	2.22E-02	1.35E-03	2.36E-02
370	Specialized design services	0.00E+00	2.01E-04	1.26E-04	3.27E-04
371	Custom computer programming services	0.00E+00	1.42E-04	9.79E-05	2.40E-04
372	Computer systems design services	0.00E+00	2.16E-04	1.56E-04	3.72E-04
373	Other computer related services, including facilities management	0.00E+00	6.88E-05	3.85E-05	1.07E-04
374	Management, scientific, and technical consulting services	0.00E+00	1.73E-03	2.49E-03	4.22E-03
375	Environmental and other technical consulting services	0.00E+00	4.33E-04	2.98E-04	7.31E-04
376	Scientific research and development services	0.00E+00	1.63E-03	6.04E-04	2.23E-03
377	Advertising and related services	0.00E+00	4.74E-04	1.05E-03	1.52E-03
378	Photographic services	0.00E+00	5.22E-05	1.74E-04	2.26E-04
379	Veterinary services	0.00E+00	4.10E-06	1.40E-03	1.40E-03
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	9.10E-05	7.60E-05	1.67E-04
381	Management of companies and enterprises	0.00E+00	1.44E-03	1.04E-03	2.47E-03
382	Employment services	0.00E+00	1.28E-03	1.65E-03	2.93E-03
383	Travel arrangement and reservation services	0.00E+00	5.55E-05	1.05E-04	1.60E-04
384	Office administrative services	0.00E+00	2.52E-04	2.79E-04	5.31E-04
386	Business support services	0.00E+00	5.64E-04	8.24E-04	1.39E-03
387	Investigation and security services	0.00E+00	9.76E-04	2.09E-03	3.07E-03
388	Services to buildings and dwellings	0.00E+00	4.33E-03	5.03E-03	9.36E-03
389	Other support services	0.00E+00	1.58E-04	1.93E-04	3.50E-04
390	Waste management and remediation services	0.00E+00	3.78E-04	7.49E-04	1.13E-03
391	Private elementary and secondary schools	0.00E+00	0.00E+00	4.77E-03	4.77E-03
393	Other private educational services	0.00E+00	2.75E-05	4.96E-03	4.99E-03
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	6.19E-09	1.36E-02	1.36E-02
395	Home health care services	0.00E+00	0.00E+00	1.45E-03	1.45E-03
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	5.24E-07	5.57E-03	5.57E-03
397	Private hospitals	0.00E+00	5.18E-09	8.46E-03	8.46E-03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.31E-02	1.31E-02
399	Child day care services	0.00E+00	0.00E+00	5.24E-03	5.24E-03
400	Individual and family services	0.00E+00	0.00E+00	3.62E-03	3.62E-03
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	3.43E-09	3.11E-03	3.11E-03
402	Performing arts companies	0.00E+00	6.18E-06	1.30E-04	1.36E-04
403	Spectator sports companies	0.00E+00	5.57E-04	3.67E-03	4.23E-03
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.74E-05	2.15E-04	2.33E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
405	Independent artists, writers, and performers	0.00E+00	9.17E-05	1.90E-04	2.81E-04
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.28E-04	1.28E-04
407	Fitness and recreational sports centers	0.00E+00	1.82E-04	1.68E-03	1.86E-03
408	Bowling centers	0.00E+00	1.50E-07	6.80E-05	6.81E-05
409	Amusement parks, arcades, and gambling industries	0.00E+00	3.84E-07	1.71E-03	1.71E-03
410	Other amusement and recreation industries	0.00E+00	8.57E-05	1.25E-03	1.33E-03
411	Hotels and motels, including casino hotels	0.00E+00	2.16E-05	1.27E-04	1.48E-04
412	Other accommodations	0.00E+00	2.79E-08	2.18E-07	2.46E-07
413	Food services and drinking places	0.00E+00	2.49E-03	3.30E-02	3.55E-02
414	Automotive repair and maintenance, except car washes	0.00E+00	2.66E-03	3.17E-03	5.83E-03
415	Car washes	0.00E+00	1.50E-04	7.72E-04	9.22E-04
416	Electronic and precision equipment repair and maintenance	0.00E+00	2.79E-04	2.36E-04	5.14E-04
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	2.00E-03	4.83E-04	2.48E-03
418	Personal and household goods repair and maintenance	0.00E+00	1.60E-04	1.71E-04	3.31E-04
419	Personal care services	0.00E+00	6.41E-09	2.39E-03	2.39E-03
420	Death care services	0.00E+00	0.00E+00	1.08E-04	1.08E-04
421	Dry-cleaning and laundry services	0.00E+00	4.10E-04	6.86E-04	1.10E-03
422	Other personal services	0.00E+00	5.79E-05	1.54E-03	1.60E-03
423	Religious organizations	0.00E+00	0.00E+00	1.30E-03	1.30E-03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	5.93E-07	2.04E-03	2.04E-03
425	Civic, social, professional, and similar organizations	0.00E+00	5.02E-04	4.51E-03	5.01E-03
426	Private household operations	0.00E+00	0.00E+00	1.06E-02	1.06E-02
427	US Postal Service	0.00E+00	6.12E-04	1.30E-03	1.92E-03
429	Other Federal Government enterprises	0.00E+00	2.76E-05	1.76E-04	2.04E-04
430	State and local government passenger transit	0.00E+00	1.64E-04	8.52E-04	1.02E-03
431	State and local government electric utilities	0.00E+00	9.49E-05	2.21E-04	3.15E-04
432	Other state and local government enterprises	0.00E+00	5.81E-04	2.87E-03	3.45E-03

Annual Site O&M		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
0	Total	6.84E+04	5.79E+03	1.25E+04	8.68E+04
1	Oilseed farming	0.00E+00	1.41E-02	1.09E-01	1.23E-01
2	Grain farming	0.00E+00	1.76E+00	1.63E+00	3.39E+00
3	Vegetable and melon farming	0.00E+00	6.23E-02	2.78E+01	2.79E+01
4	Fruit farming	0.00E+00	1.48E-01	2.91E+01	2.92E+01
5	Tree nut farming	0.00E+00	2.98E-01	6.70E+00	7.00E+00
6	Greenhouse, nursery, and floriculture production	0.00E+00	8.86E+00	9.92E-01	9.86E+00
9	Sugarcane and sugar beet farming	0.00E+00	5.14E-03	7.24E-03	1.24E-02
10	All other crop farming	0.00E+00	3.76E+01	2.21E+00	3.98E+01
11	Cattle ranching and farming	0.00E+00	5.71E+00	7.92E-02	5.79E+00
12	Dairy cattle and milk production	0.00E+00	3.39E-02	2.21E-01	2.55E-01
13	Poultry and egg production	0.00E+00	6.61E-04	2.76E-01	2.76E-01
14	Animal production, except cattle and poultry and eggs	0.00E+00	2.45E+01	1.31E+00	2.58E+01
15	Forestry, forest products, and timber tract production	0.00E+00	3.05E+00	9.76E-02	3.15E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	7.24E-02	7.24E-02
19	Support activities for agriculture and forestry	5.04E+04	2.20E+01	2.01E+01	5.04E+04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
20	Extraction of oil and natural gas	0.00E+00	5.58E+00	5.39E+00	1.10E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	8.59E+00	1.59E+00	1.02E+01
29	Support activities for oil and gas operations	0.00E+00	4.15E-01	3.94E-01	8.09E-01
31	Electric power generation, transmission, and distribution	0.00E+00	6.34E+01	1.29E+02	1.92E+02
32	Natural gas distribution	0.00E+00	3.96E+00	1.76E+00	5.72E+00
33	Water, sewage and other treatment and delivery systems	0.00E+00	2.45E-02	3.50E-01	3.74E-01
39	Maintenance and repair construction of nonresidential structures	1.81E+04	1.25E+02	1.23E+02	1.83E+04
40	Maintenance and repair construction of residential structures	0.00E+00	8.57E-01	4.49E+01	4.57E+01
41	Dog and cat food manufacturing	0.00E+00	1.52E-03	7.48E-02	7.63E-02
42	Other animal food manufacturing	0.00E+00	1.11E+01	1.34E+00	1.24E+01
43	Flour milling and malt manufacturing	0.00E+00	4.27E+00	2.60E+00	6.88E+00
52	Nonchocolate confectionery manufacturing	0.00E+00	1.47E-02	2.09E-01	2.23E-01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	3.08E-02	3.93E+00	3.96E+00
62	Bread and bakery product manufacturing	0.00E+00	1.60E-03	2.25E-01	2.27E-01
64	Tortilla manufacturing	0.00E+00	6.02E-05	1.98E-01	1.98E-01
69	All other food manufacturing	0.00E+00	1.83E-02	9.58E-01	9.76E-01
70	Soft drink and ice manufacturing	0.00E+00	1.64E-01	3.71E+01	3.73E+01
71	Breweries	0.00E+00	1.33E-02	3.72E+00	3.74E+00
72	Wineries	0.00E+00	2.12E-02	3.90E+00	3.92E+00
76	Broadwoven fabric mills	0.00E+00	4.93E-03	5.56E-02	6.05E-02
80	Textile and fabric finishing mills	0.00E+00	8.13E-02	2.88E-01	3.69E-01
84	Textile bag and canvas mills	0.00E+00	1.10E-01	6.37E-03	1.17E-01
85	All other textile product mills	0.00E+00	8.84E-01	1.21E-01	1.01E+00
87	Cut and sew apparel contractors	0.00E+00	1.62E-01	6.45E-01	8.07E-01
91	Apparel accessories and other apparel manufacturing	0.00E+00	2.29E-03	1.89E-02	2.12E-02
93	Footwear manufacturing	0.00E+00	3.85E-12	1.40E-01	1.40E-01
95	Sawmills and wood preservation	0.00E+00	5.93E+01	2.10E+00	6.14E+01
97	Engineered wood member and truss manufacturing	0.00E+00	5.97E-01	5.46E-02	6.51E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.40E+00	8.05E-02	1.48E+00
100	Wood container and pallet manufacturing	0.00E+00	1.97E+00	3.21E+00	5.19E+00
101	Manufactured home (mobile home) manufacturing	0.00E+00	2.11E+00	2.08E-02	2.13E+00
103	All other miscellaneous wood product manufacturing	0.00E+00	2.99E-01	1.00E-01	3.99E-01
107	Paperboard container manufacturing	0.00E+00	1.07E+01	5.47E+00	1.62E+01
113	Printing	0.00E+00	1.10E+01	2.40E+01	3.50E+01
114	Support activities for printing	0.00E+00	1.38E-02	9.18E-03	2.30E-02
130	Fertilizer manufacturing	0.00E+00	3.66E+02	1.30E+00	3.67E+02
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.52E+02	3.92E+00	1.56E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	1.09E-02	3.14E-01	3.25E-01
134	In-vitro diagnostic substance manufacturing	0.00E+00	4.94E-03	1.20E-02	1.69E-02
135	Biological product (except diagnostic) manufacturing	0.00E+00	7.30E+00	5.36E-01	7.84E+00
140	Printing ink manufacturing	0.00E+00	1.71E-01	1.40E-01	3.10E-01
141	All other chemical product and preparation manufacturing	0.00E+00	8.80E-02	2.49E-02	1.13E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	2.69E-01	1.74E-01	4.43E-01
145	Laminated plastics plate, sheet (except packaging), and	0.00E+00	7.63E-01	2.27E-01	9.90E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
	shape manufacturing				
149	Other plastics product manufacturing	0.00E+00	2.35E+00	5.13E-01	2.86E+00
150	Tire manufacturing	0.00E+00	4.32E-01	3.20E-01	7.52E-01
162	Concrete pipe, brick, and block manufacturing	0.00E+00	1.67E+01	2.12E+00	1.88E+01
163	Other concrete product manufacturing	0.00E+00	3.83E+01	4.48E+00	4.28E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	1.39E+01	1.71E-01	1.40E+01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	3.61E+00	2.85E-01	3.89E+00
186	Plate work and fabricated structural product manufacturing	0.00E+00	4.43E+00	3.06E-01	4.73E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.02E+01	6.64E-01	1.08E+01
194	Spring and wire product manufacturing	0.00E+00	5.93E-01	1.19E-01	7.12E-01
195	Machine shops	0.00E+00	2.81E-01	3.96E-02	3.21E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	4.74E-02	6.29E-03	5.37E-02
198	Valve and fittings other than plumbing manufacturing	0.00E+00	8.61E-01	1.12E-01	9.73E-01
203	Farm machinery and equipment manufacturing	0.00E+00	8.44E-02	1.83E-02	1.03E-01
205	Construction machinery manufacturing	0.00E+00	1.28E-02	3.40E-04	1.32E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.33E-01	4.44E-03	1.37E-01
207	Other industrial machinery manufacturing	0.00E+00	7.81E-03	8.18E-03	1.60E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	4.99E-04	3.41E-04	8.41E-04
211	Optical instrument and lens manufacturing	0.00E+00	6.35E-04	6.66E-04	1.30E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	5.88E-04	3.23E-04	9.11E-04
226	Pump and pumping equipment manufacturing	0.00E+00	3.48E-02	2.11E-03	3.69E-02
228	Material handling equipment manufacturing	0.00E+00	1.23E-02	1.99E-03	1.43E-02
233	Fluid power process machinery manufacturing	0.00E+00	1.77E-02	4.97E-03	2.27E-02
234	Electronic computer manufacturing	0.00E+00	1.25E-03	1.81E-02	1.94E-02
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	8.07E-02	1.88E-01	2.69E-01
237	Telephone apparatus manufacturing	0.00E+00	1.16E-03	4.79E-03	5.95E-03
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	2.35E-04	4.50E-03	4.74E-03
240	Audio and video equipment manufacturing	0.00E+00	2.36E-03	4.40E-03	6.76E-03
241	Electron tube manufacturing	0.00E+00	1.76E-03	3.17E-03	4.92E-03
243	Semiconductor and related device manufacturing	0.00E+00	2.24E-02	1.01E-02	3.25E-02
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	3.23E-02	1.21E-02	4.44E-02
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.40E-03	2.20E-03	3.60E-03
250	Automatic environmental control manufacturing	0.00E+00	1.17E-02	1.74E-03	1.35E-02
251	Industrial process variable instruments manufacturing	0.00E+00	6.35E-03	4.76E-03	1.11E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	9.39E-03	9.44E-03	1.88E-02
253	Electricity and signal testing instruments manufacturing	0.00E+00	5.13E-03	8.90E-04	6.02E-03
269	Relay and industrial control manufacturing	0.00E+00	6.05E-03	1.95E-03	8.00E-03
273	Wiring device manufacturing	0.00E+00	3.84E+00	2.34E-01	4.07E+00
279	Motor vehicle body manufacturing	0.00E+00	2.98E-02	1.73E-02	4.71E-02
280	Truck trailer manufacturing	0.00E+00	4.13E-03	1.40E-03	5.53E-03
282	Travel trailer and camper manufacturing	0.00E+00	3.97E-02	4.28E-01	4.68E-01
283	Motor vehicle parts manufacturing	0.00E+00	3.36E-01	1.49E-01	4.84E-01
284	Aircraft manufacturing	0.00E+00	1.83E-04	1.19E-03	1.37E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	5.48E-05	1.81E-03	1.87E-03
294	All other transportation equipment manufacturing	0.00E+00	1.83E-03	4.16E-02	4.35E-02
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	1.35E-01	5.36E-02	1.88E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	3.35E-04	2.03E-02	2.06E-02
300	Office Furniture	0.00E+00	9.52E-04	1.17E-01	1.18E-01
304	Blind and shade manufacturing	0.00E+00	1.72E-01	2.79E-01	4.51E-01
312	Doll, toy, and game manufacturing	0.00E+00	1.80E-03	1.03E+00	1.03E+00
313	Office supplies (except paper) manufacturing	0.00E+00	1.80E-02	1.66E-02	3.46E-02
317	All other miscellaneous manufacturing	0.00E+00	3.80E-02	6.41E-01	6.79E-01
319	Wholesale trade businesses	0.00E+00	4.85E+02	6.69E+02	1.15E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.06E+02	4.10E+02	5.15E+02
321	Retail Stores - Furniture and home furnishings	0.00E+00	1.16E+01	9.39E+01	1.05E+02
322	Retail Stores - Electronics and appliances	0.00E+00	5.45E+00	3.64E+01	4.19E+01
323	Retail Stores - Building material and garden supply	0.00E+00	6.34E+01	1.72E+02	2.36E+02
324	Retail Stores - Food and beverage	0.00E+00	7.49E+01	4.87E+02	5.62E+02
325	Retail Stores - Health and personal care	0.00E+00	2.45E+01	1.56E+02	1.81E+02
326	Retail Stores - Gasoline stations	0.00E+00	3.24E+01	1.65E+02	1.97E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	8.63E+00	6.13E+01	6.99E+01
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	1.03E+01	7.22E+01	8.25E+01
329	Retail Stores - General merchandise	0.00E+00	6.21E+01	4.07E+02	4.69E+02
330	Retail Stores - Miscellaneous	0.00E+00	1.45E+01	9.87E+01	1.13E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	6.07E+00	4.92E+01	5.53E+01
332	Transport by air	0.00E+00	1.13E-03	4.77E-03	5.90E-03
333	Transport by rail	0.00E+00	1.39E+01	2.49E+00	1.64E+01
334	Transport by water	0.00E+00	4.59E-01	4.42E-01	9.02E-01
335	Transport by truck	0.00E+00	4.70E+02	1.84E+02	6.54E+02
336	Transit and ground passenger transportation	0.00E+00	9.60E+00	4.97E+01	5.93E+01
337	Transport by pipeline	0.00E+00	9.36E-01	8.72E-01	1.81E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	4.82E+01	4.81E+01	9.64E+01
339	Couriers and messengers	0.00E+00	3.95E+01	6.33E+01	1.03E+02
340	Warehousing and storage	0.00E+00	3.29E+01	6.82E+01	1.01E+02
341	Newspaper publishers	0.00E+00	5.90E+00	2.60E+01	3.19E+01
342	Periodical publishers	0.00E+00	6.64E-01	1.57E+00	2.24E+00
343	Book publishers	0.00E+00	2.91E-03	8.99E-02	9.28E-02
344	Directory, mailing list, and other publishers	0.00E+00	4.36E-01	1.24E+00	1.68E+00
345	Software publishers	0.00E+00	1.14E-01	8.09E-02	1.95E-01
346	Motion picture and video industries	0.00E+00	1.19E+00	6.10E+00	7.29E+00
347	Sound recording industries	0.00E+00	2.56E-02	1.06E+00	1.09E+00
348	Radio and television broadcasting	0.00E+00	2.60E+01	6.01E+01	8.61E+01
349	Cable and other subscription programming	0.00E+00	5.69E-01	1.44E+00	2.01E+00
350	Internet publishing and broadcasting	0.00E+00	4.15E+00	1.06E+01	1.47E+01
351	Telecommunications	0.00E+00	8.13E+01	1.76E+02	2.57E+02
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	6.93E-01	3.52E+00	4.21E+00
353	Other information services	0.00E+00	3.37E-02	1.93E-01	2.27E-01
354	Monetary authorities and depository credit intermediation	0.00E+00	7.23E+01	2.07E+02	2.79E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
	activities				
355	Nondepository credit intermediation and related activities	0.00E+00	8.47E+01	3.75E+02	4.60E+02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	6.64E+00	5.45E+01	6.11E+01
357	Insurance carriers	0.00E+00	1.17E+01	8.55E+01	9.72E+01
358	Insurance agencies, brokerages, and related activities	0.00E+00	1.48E+01	9.06E+01	1.05E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	2.59E-01	5.07E+01	5.10E+01
360	Real estate establishments	0.00E+00	5.50E+01	3.27E+02	3.82E+02
362	Automotive equipment rental and leasing	0.00E+00	2.90E+01	4.86E+01	7.76E+01
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.22E+00	1.31E+01	1.43E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	4.87E+00	4.87E+00
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.55E+02	1.13E+01	1.66E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	8.79E-01	5.59E-01	1.44E+00
367	Legal services	0.00E+00	5.87E+01	4.94E+01	1.08E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	6.62E+01	4.05E+01	1.07E+02
369	Architectural, engineering, and related services	0.00E+00	1.29E+03	7.83E+01	1.37E+03
370	Specialized design services	0.00E+00	5.41E+00	3.38E+00	8.79E+00
371	Custom computer programming services	0.00E+00	1.02E+01	7.04E+00	1.73E+01
372	Computer systems design services	0.00E+00	1.22E+01	8.83E+00	2.11E+01
373	Other computer related services, including facilities management	0.00E+00	3.84E+00	2.15E+00	5.99E+00
374	Management, scientific, and technical consulting services	0.00E+00	9.71E+01	1.40E+02	2.37E+02
375	Environmental and other technical consulting services	0.00E+00	2.50E+01	1.72E+01	4.22E+01
376	Scientific research and development services	0.00E+00	1.05E+02	3.92E+01	1.45E+02
377	Advertising and related services	0.00E+00	1.49E+01	3.28E+01	4.77E+01
378	Photographic services	0.00E+00	1.65E+00	5.49E+00	7.14E+00
379	Veterinary services	0.00E+00	1.73E-01	5.91E+01	5.93E+01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	4.56E+00	3.81E+00	8.36E+00
381	Management of companies and enterprises	0.00E+00	1.40E+02	1.01E+02	2.41E+02
382	Employment services	0.00E+00	3.49E+01	4.51E+01	8.00E+01
383	Travel arrangement and reservation services	0.00E+00	2.00E+00	3.78E+00	5.78E+00
384	Office administrative services	0.00E+00	1.85E+01	2.06E+01	3.91E+01
386	Business support services	0.00E+00	1.88E+01	2.75E+01	4.63E+01
387	Investigation and security services	0.00E+00	2.02E+01	4.34E+01	6.36E+01
388	Services to buildings and dwellings	0.00E+00	1.04E+02	1.21E+02	2.25E+02
389	Other support services	0.00E+00	4.76E+00	5.80E+00	1.06E+01
390	Waste management and remediation services	0.00E+00	2.80E+01	5.56E+01	8.36E+01
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.08E+02	1.08E+02
393	Other private educational services	0.00E+00	4.20E-01	7.58E+01	7.63E+01
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	6.02E-04	1.33E+03	1.33E+03
395	Home health care services	0.00E+00	0.00E+00	7.49E+01	7.49E+01
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	3.75E-02	3.99E+02	3.99E+02
397	Private hospitals	0.00E+00	5.09E-04	8.31E+02	8.31E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
398	Nursing and residential care facilities	0.00E+00	0.00E+00	4.95E+02	4.95E+02
399	Child day care services	0.00E+00	0.00E+00	1.13E+02	1.13E+02
400	Individual and family services	0.00E+00	0.00E+00	1.40E+02	1.40E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.15E-04	1.04E+02	1.04E+02
402	Performing arts companies	0.00E+00	4.26E-02	8.97E-01	9.40E-01
403	Spectator sports companies	0.00E+00	4.80E+00	3.16E+01	3.64E+01
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	1.28E-01	1.58E+00	1.71E+00
405	Independent artists, writers, and performers	0.00E+00	6.25E+00	1.29E+01	1.92E+01
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.22E+00	1.22E+00
407	Fitness and recreational sports centers	0.00E+00	1.85E+00	1.70E+01	1.89E+01
408	Bowling centers	0.00E+00	1.71E-03	7.73E-01	7.74E-01
409	Amusement parks, arcades, and gambling industries	0.00E+00	7.10E-03	3.16E+01	3.16E+01
410	Other amusement and recreation industries	0.00E+00	2.39E+00	3.48E+01	3.72E+01
411	Hotels and motels, including casino hotels	0.00E+00	4.89E-01	2.88E+00	3.37E+00
412	Other accommodations	0.00E+00	6.25E-04	4.86E-03	5.49E-03
413	Food services and drinking places	0.00E+00	5.81E+01	7.72E+02	8.30E+02
414	Automotive repair and maintenance, except car washes	0.00E+00	1.58E+02	1.87E+02	3.45E+02
415	Car washes	0.00E+00	3.05E+00	1.57E+01	1.87E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	2.16E+01	1.82E+01	3.98E+01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.23E+02	2.98E+01	1.53E+02
418	Personal and household goods repair and maintenance	0.00E+00	7.56E+00	8.11E+00	1.57E+01
419	Personal care services	0.00E+00	2.33E-04	8.68E+01	8.68E+01
420	Death care services	0.00E+00	0.00E+00	3.72E+00	3.72E+00
421	Dry-cleaning and laundry services	0.00E+00	2.73E+01	4.56E+01	7.28E+01
422	Other personal services	0.00E+00	3.04E+00	8.09E+01	8.39E+01
423	Religious organizations	0.00E+00	0.00E+00	4.13E+01	4.13E+01
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	4.59E-02	1.58E+02	1.58E+02
425	Civic, social, professional, and similar organizations	0.00E+00	3.56E+01	3.20E+02	3.56E+02
426	Private household operations	0.00E+00	0.00E+00	1.25E+02	1.25E+02
427	US Postal Service	0.00E+00	6.52E+01	1.39E+02	2.04E+02
429	Other Federal Government enterprises	0.00E+00	1.87E+00	1.19E+01	1.38E+01
430	State and local government passenger transit	0.00E+00	1.25E+01	6.50E+01	7.76E+01
431	State and local government electric utilities	0.00E+00	1.43E+01	3.33E+01	4.76E+01
432	Other state and local government enterprises	0.00E+00	6.77E+01	3.35E+02	4.02E+02

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
0	Total	7.18E+04	9.27E+03	2.58E+04	1.07E+05
1	Oilseed farming	0.00E+00	4.57E-02	3.55E-01	4.00E-01
2	Grain farming	0.00E+00	2.99E+00	2.76E+00	5.75E+00
3	Vegetable and melon farming	0.00E+00	7.22E-02	3.22E+01	3.23E+01
4	Fruit farming	0.00E+00	1.60E-01	3.13E+01	3.14E+01
5	Tree nut farming	0.00E+00	3.17E-01	7.13E+00	7.45E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
6	Greenhouse, nursery, and floriculture production	0.00E+00	8.25E+00	9.23E-01	9.17E+00
9	Sugarcane and sugar beet farming	0.00E+00	8.83E-03	1.24E-02	2.13E-02
10	All other crop farming	0.00E+00	4.37E+01	2.57E+00	4.63E+01
11	Cattle ranching and farming	0.00E+00	9.73E+00	1.35E-01	9.86E+00
12	Dairy cattle and milk production	0.00E+00	1.69E-01	1.10E+00	1.27E+00
13	Poultry and egg production	0.00E+00	8.93E-04	3.73E-01	3.74E-01
14	Animal production, except cattle and poultry and eggs	0.00E+00	5.93E+01	3.17E+00	6.25E+01
15	Forestry, forest products, and timber tract production	0.00E+00	6.82E+00	2.18E-01	7.04E+00
18	Commercial hunting and trapping	0.00E+00	0.00E+00	1.33E-01	1.33E-01
19	Support activities for agriculture and forestry	4.95E+04	2.16E+01	1.97E+01	4.95E+04
20	Extraction of oil and natural gas	0.00E+00	1.35E+01	1.30E+01	2.65E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.04E+01	1.93E+00	1.24E+01
29	Support activities for oil and gas operations	0.00E+00	4.39E-01	4.17E-01	8.56E-01
31	Electric power generation, transmission, and distribution	0.00E+00	2.42E+02	4.93E+02	7.36E+02
32	Natural gas distribution	0.00E+00	1.33E+01	5.93E+00	1.92E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	6.90E-02	9.85E-01	1.05E+00
39	Maintenance and repair construction of nonresidential structures	2.24E+04	1.55E+02	1.52E+02	2.27E+04
40	Maintenance and repair construction of residential structures	0.00E+00	1.04E+00	5.45E+01	5.55E+01
41	Dog and cat food manufacturing	0.00E+00	6.77E-03	3.34E-01	3.40E-01
42	Other animal food manufacturing	0.00E+00	2.62E+01	3.16E+00	2.93E+01
43	Flour milling and malt manufacturing	0.00E+00	9.94E+00	6.06E+00	1.60E+01
52	Nonchocolate confectionery manufacturing	0.00E+00	2.61E-02	3.71E-01	3.97E-01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	6.58E-02	8.40E+00	8.46E+00
62	Bread and bakery product manufacturing	0.00E+00	3.67E-03	5.18E-01	5.21E-01
64	Tortilla manufacturing	0.00E+00	2.28E-04	7.50E-01	7.51E-01
69	All other food manufacturing	0.00E+00	2.98E-02	1.56E+00	1.59E+00
70	Soft drink and ice manufacturing	0.00E+00	2.23E-01	5.04E+01	5.07E+01
71	Breweries	0.00E+00	6.43E-02	1.80E+01	1.81E+01
72	Wineries	0.00E+00	3.58E-02	6.57E+00	6.60E+00
76	Broadwoven fabric mills	0.00E+00	1.02E-02	1.15E-01	1.25E-01
80	Textile and fabric finishing mills	0.00E+00	1.18E-01	4.19E-01	5.37E-01
84	Textile bag and canvas mills	0.00E+00	1.61E-01	9.32E-03	1.71E-01
85	All other textile product mills	0.00E+00	1.50E+00	2.05E-01	1.70E+00
87	Cut and sew apparel contractors	0.00E+00	2.12E-01	8.42E-01	1.05E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	2.03E-03	1.68E-02	1.88E-02
93	Footwear manufacturing	0.00E+00	4.69E-12	1.70E-01	1.70E-01
95	Sawmills and wood preservation	0.00E+00	6.70E+01	2.37E+00	6.94E+01
97	Engineered wood member and truss manufacturing	0.00E+00	7.69E-01	7.04E-02	8.40E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.62E+00	9.30E-02	1.71E+00
100	Wood container and pallet manufacturing	0.00E+00	2.47E+00	4.02E+00	6.49E+00
101	Manufactured home (mobile home) manufacturing	0.00E+00	2.06E+00	2.04E-02	2.08E+00
103	All other miscellaneous wood product manufacturing	0.00E+00	5.01E-01	1.68E-01	6.68E-01
107	Paperboard container manufacturing	0.00E+00	1.46E+01	7.47E+00	2.21E+01
113	Printing	0.00E+00	1.34E+01	2.92E+01	4.26E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
114	Support activities for printing	0.00E+00	1.60E-02	1.06E-02	2.67E-02
130	Fertilizer manufacturing	0.00E+00	5.64E+02	2.00E+00	5.66E+02
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	5.20E+02	1.34E+01	5.33E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	7.30E-02	2.11E+00	2.19E+00
134	In-vitro diagnostic substance manufacturing	0.00E+00	7.25E-03	1.76E-02	2.49E-02
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.38E+01	1.01E+00	1.48E+01
140	Printing ink manufacturing	0.00E+00	1.53E-01	1.26E-01	2.79E-01
141	All other chemical product and preparation manufacturing	0.00E+00	1.16E-01	3.27E-02	1.48E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	4.15E-01	2.69E-01	6.84E-01
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.04E+00	3.08E-01	1.34E+00
149	Other plastics product manufacturing	0.00E+00	3.52E+00	7.69E-01	4.29E+00
150	Tire manufacturing	0.00E+00	6.33E-01	4.68E-01	1.10E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	2.65E+01	3.37E+00	2.99E+01
163	Other concrete product manufacturing	0.00E+00	5.11E+01	5.98E+00	5.71E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	4.02E+01	4.96E-01	4.07E+01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	7.17E+00	5.65E-01	7.73E+00
186	Plate work and fabricated structural product manufacturing	0.00E+00	6.50E+00	4.49E-01	6.95E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.40E+01	9.10E-01	1.49E+01
194	Spring and wire product manufacturing	0.00E+00	1.06E+00	2.13E-01	1.27E+00
195	Machine shops	0.00E+00	3.43E-01	4.83E-02	3.91E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	7.21E-02	9.56E-03	8.17E-02
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.78E+00	2.31E-01	2.01E+00
203	Farm machinery and equipment manufacturing	0.00E+00	1.94E-01	4.20E-02	2.36E-01
205	Construction machinery manufacturing	0.00E+00	2.07E-02	5.49E-04	2.13E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.89E-01	6.32E-03	1.95E-01
207	Other industrial machinery manufacturing	0.00E+00	9.06E-03	9.49E-03	1.86E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	7.28E-04	4.98E-04	1.23E-03
211	Optical instrument and lens manufacturing	0.00E+00	1.09E-03	1.14E-03	2.23E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	7.70E-04	4.24E-04	1.19E-03
226	Pump and pumping equipment manufacturing	0.00E+00	6.71E-02	4.08E-03	7.12E-02
228	Material handling equipment manufacturing	0.00E+00	2.07E-02	3.35E-03	2.40E-02
233	Fluid power process machinery manufacturing	0.00E+00	2.76E-02	7.75E-03	3.54E-02
234	Electronic computer manufacturing	0.00E+00	3.44E-03	4.97E-02	5.32E-02
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	9.60E-02	2.24E-01	3.20E-01
237	Telephone apparatus manufacturing	0.00E+00	2.38E-03	9.84E-03	1.22E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	2.82E-04	5.40E-03	5.69E-03
240	Audio and video equipment manufacturing	0.00E+00	2.98E-03	5.55E-03	8.53E-03
241	Electron tube manufacturing	0.00E+00	1.44E-03	2.59E-03	4.03E-03
243	Semiconductor and related device manufacturing	0.00E+00	5.86E-02	2.64E-02	8.49E-02
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	4.18E-02	1.57E-02	5.75E-02
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.15E-03	3.39E-03	5.54E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
250	Automatic environmental control manufacturing	0.00E+00	1.81E-02	2.68E-03	2.08E-02
251	Industrial process variable instruments manufacturing	0.00E+00	7.66E-03	5.75E-03	1.34E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.35E-02	1.36E-02	2.72E-02
253	Electricity and signal testing instruments manufacturing	0.00E+00	7.01E-03	1.22E-03	8.23E-03
269	Relay and industrial control manufacturing	0.00E+00	1.13E-02	3.65E-03	1.50E-02
273	Wiring device manufacturing	0.00E+00	8.08E+00	4.92E-01	8.57E+00
279	Motor vehicle body manufacturing	0.00E+00	4.26E-02	2.47E-02	6.73E-02
280	Truck trailer manufacturing	0.00E+00	4.38E-03	1.49E-03	5.86E-03
282	Travel trailer and camper manufacturing	0.00E+00	3.91E-02	4.22E-01	4.61E-01
283	Motor vehicle parts manufacturing	0.00E+00	5.47E-01	2.42E-01	7.89E-01
284	Aircraft manufacturing	0.00E+00	3.83E-04	2.50E-03	2.88E-03
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.56E-04	5.15E-03	5.31E-03
294	All other transportation equipment manufacturing	0.00E+00	4.06E-03	9.24E-02	9.65E-02
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	1.24E-01	4.93E-02	1.73E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	4.45E-04	2.70E-02	2.74E-02
300	Office Furniture	0.00E+00	2.35E-03	2.89E-01	2.92E-01
304	Blind and shade manufacturing	0.00E+00	1.86E-01	3.01E-01	4.87E-01
312	Doll, toy, and game manufacturing	0.00E+00	2.89E-03	1.64E+00	1.65E+00
313	Office supplies (except paper) manufacturing	0.00E+00	3.30E-02	3.03E-02	6.33E-02
317	All other miscellaneous manufacturing	0.00E+00	6.02E-02	1.01E+00	1.07E+00
319	Wholesale trade businesses	0.00E+00	1.06E+03	1.46E+03	2.52E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.18E+02	4.58E+02	5.76E+02
321	Retail Stores - Furniture and home furnishings	0.00E+00	1.90E+01	1.54E+02	1.73E+02
322	Retail Stores - Electronics and appliances	0.00E+00	1.00E+01	6.71E+01	7.71E+01
323	Retail Stores - Building material and garden supply	0.00E+00	9.18E+01	2.50E+02	3.41E+02
324	Retail Stores - Food and beverage	0.00E+00	1.03E+02	6.73E+02	7.76E+02
325	Retail Stores - Health and personal care	0.00E+00	3.35E+01	2.14E+02	2.47E+02
326	Retail Stores - Gasoline stations	0.00E+00	4.58E+01	2.33E+02	2.78E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	1.33E+01	9.41E+01	1.07E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	1.69E+01	1.18E+02	1.35E+02
329	Retail Stores - General merchandise	0.00E+00	9.87E+01	6.47E+02	7.46E+02
330	Retail Stores - Miscellaneous	0.00E+00	2.37E+01	1.61E+02	1.85E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.55E+01	1.26E+02	1.41E+02
332	Transport by air	0.00E+00	2.56E-02	1.08E-01	1.33E-01
333	Transport by rail	0.00E+00	2.41E+01	4.30E+00	2.84E+01
334	Transport by water	0.00E+00	1.08E+00	1.04E+00	2.13E+00
335	Transport by truck	0.00E+00	5.40E+02	2.11E+02	7.51E+02
336	Transit and ground passenger transportation	0.00E+00	1.23E+01	6.39E+01	7.63E+01
337	Transport by pipeline	0.00E+00	7.73E-01	7.20E-01	1.49E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	5.52E+01	5.51E+01	1.10E+02
339	Couriers and messengers	0.00E+00	6.10E+01	9.78E+01	1.59E+02
340	Warehousing and storage	0.00E+00	4.17E+01	8.65E+01	1.28E+02
341	Newspaper publishers	0.00E+00	8.48E+00	3.74E+01	4.59E+01
342	Periodical publishers	0.00E+00	1.08E+00	2.56E+00	3.64E+00
343	Book publishers	0.00E+00	7.79E-03	2.41E-01	2.49E-01
344	Directory, mailing list, and other publishers	0.00E+00	1.09E+00	3.12E+00	4.21E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
345	Software publishers	0.00E+00	3.90E-01	2.78E-01	6.68E-01
346	Motion picture and video industries	0.00E+00	9.11E+00	4.66E+01	5.57E+01
347	Sound recording industries	0.00E+00	2.04E-01	8.46E+00	8.66E+00
348	Radio and television broadcasting	0.00E+00	3.25E+01	7.51E+01	1.08E+02
349	Cable and other subscription programming	0.00E+00	1.88E+00	4.77E+00	6.65E+00
350	Internet publishing and broadcasting	0.00E+00	3.98E+00	1.01E+01	1.41E+01
351	Telecommunications	0.00E+00	3.26E+02	7.05E+02	1.03E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	5.50E+00	2.79E+01	3.34E+01
353	Other information services	0.00E+00	4.87E-01	2.80E+00	3.28E+00
354	Monetary authorities and depository credit intermediation activities	0.00E+00	3.11E+02	8.89E+02	1.20E+03
355	Nondepository credit intermediation and related activities	0.00E+00	9.82E+01	4.35E+02	5.33E+02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	8.61E+00	7.06E+01	7.92E+01
357	Insurance carriers	0.00E+00	3.70E+01	2.70E+02	3.07E+02
358	Insurance agencies, brokerages, and related activities	0.00E+00	1.78E+01	1.09E+02	1.27E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	9.77E-01	1.91E+02	1.92E+02
360	Real estate establishments	0.00E+00	4.55E+02	2.71E+03	3.16E+03
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	5.38E+03	5.38E+03
362	Automotive equipment rental and leasing	0.00E+00	8.05E+01	1.35E+02	2.15E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.58E+00	1.70E+01	1.86E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	1.44E+01	1.44E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	3.44E+02	2.52E+01	3.69E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	2.94E+01	1.87E+01	4.82E+01
367	Legal services	0.00E+00	1.43E+02	1.21E+02	2.64E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.10E+02	6.70E+01	1.77E+02
369	Architectural, engineering, and related services	0.00E+00	1.32E+03	8.04E+01	1.40E+03
370	Specialized design services	0.00E+00	1.81E+01	1.13E+01	2.94E+01
371	Custom computer programming services	0.00E+00	8.88E+00	6.10E+00	1.50E+01
372	Computer systems design services	0.00E+00	1.10E+00	7.91E-01	1.89E+00
373	Other computer related services, including facilities management	0.00E+00	1.48E+01	8.26E+00	2.30E+01
374	Management, scientific, and technical consulting services	0.00E+00	1.05E+02	1.51E+02	2.56E+02
375	Environmental and other technical consulting services	0.00E+00	2.51E+01	1.73E+01	4.24E+01
376	Scientific research and development services	0.00E+00	1.05E+02	3.92E+01	1.45E+02
377	Advertising and related services	0.00E+00	3.81E+01	8.43E+01	1.22E+02
378	Photographic services	0.00E+00	4.37E+00	1.45E+01	1.89E+01
379	Veterinary services	0.00E+00	1.74E-01	5.93E+01	5.95E+01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.75E+01	1.46E+01	3.21E+01
381	Management of companies and enterprises	0.00E+00	1.65E+02	1.19E+02	2.84E+02
382	Employment services	0.00E+00	3.83E+01	4.96E+01	8.80E+01
383	Travel arrangement and reservation services	0.00E+00	4.43E+00	8.37E+00	1.28E+01
384	Office administrative services	0.00E+00	1.69E+01	1.87E+01	3.56E+01
386	Business support services	0.00E+00	1.85E+01	2.71E+01	4.56E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
387	Investigation and security services	0.00E+00	2.08E+01	4.46E+01	6.54E+01
388	Services to buildings and dwellings	0.00E+00	1.46E+02	1.70E+02	3.16E+02
389	Other support services	0.00E+00	9.61E+00	1.17E+01	2.13E+01
390	Waste management and remediation services	0.00E+00	5.25E+01	1.04E+02	1.57E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	4.44E+01	4.44E+01
393	Other private educational services	0.00E+00	4.01E-01	7.25E+01	7.29E+01
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	6.19E-04	1.36E+03	1.36E+03
395	Home health care services	0.00E+00	0.00E+00	7.63E+01	7.63E+01
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	4.97E-02	5.28E+02	5.28E+02
397	Private hospitals	0.00E+00	5.54E-04	9.04E+02	9.04E+02
398	Nursing and residential care facilities	0.00E+00	0.00E+00	5.71E+02	5.71E+02
399	Child day care services	0.00E+00	0.00E+00	1.52E+02	1.52E+02
400	Individual and family services	0.00E+00	0.00E+00	1.34E+02	1.34E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.11E-04	1.01E+02	1.01E+02
402	Performing arts companies	0.00E+00	3.38E-02	7.12E-01	7.46E-01
403	Spectator sports companies	0.00E+00	5.58E+00	3.68E+01	4.24E+01
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	2.56E-01	3.17E+00	3.43E+00
405	Independent artists, writers, and performers	0.00E+00	1.12E+01	2.32E+01	3.44E+01
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	6.96E+00	6.96E+00
407	Fitness and recreational sports centers	0.00E+00	3.61E+00	3.33E+01	3.69E+01
408	Bowling centers	0.00E+00	5.06E-03	2.29E+00	2.29E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	2.45E-02	1.09E+02	1.09E+02
410	Other amusement and recreation industries	0.00E+00	4.40E+00	6.41E+01	6.85E+01
411	Hotels and motels, including casino hotels	0.00E+00	1.29E+00	7.59E+00	8.88E+00
412	Other accommodations	0.00E+00	9.74E-04	7.59E-03	8.56E-03
413	Food services and drinking places	0.00E+00	9.84E+01	1.31E+03	1.41E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	1.82E+02	2.17E+02	3.99E+02
415	Car washes	0.00E+00	3.44E+00	1.77E+01	2.11E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	3.20E+01	2.70E+01	5.90E+01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	1.61E+02	3.90E+01	2.00E+02
418	Personal and household goods repair and maintenance	0.00E+00	1.05E+01	1.13E+01	2.18E+01
419	Personal care services	0.00E+00	2.52E-04	9.40E+01	9.40E+01
420	Death care services	0.00E+00	0.00E+00	2.65E+00	2.65E+00
421	Dry-cleaning and laundry services	0.00E+00	2.78E+01	4.64E+01	7.42E+01
422	Other personal services	0.00E+00	3.71E+00	9.87E+01	1.02E+02
423	Religious organizations	0.00E+00	0.00E+00	4.71E+01	4.71E+01
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	4.46E-02	1.54E+02	1.54E+02
425	Civic, social, professional, and similar organizations	0.00E+00	3.56E+01	3.19E+02	3.55E+02
426	Private household operations	0.00E+00	0.00E+00	1.25E+02	1.25E+02
427	US Postal Service	0.00E+00	6.37E+01	1.36E+02	1.99E+02
429	Other Federal Government enterprises	0.00E+00	2.44E+00	1.56E+01	1.80E+01
430	State and local government passenger transit	0.00E+00	9.75E-01	5.05E+00	6.03E+00
431	State and local government electric utilities	0.00E+00	2.50E+01	5.80E+01	8.30E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Value Added			
ID	Description	Direct	Indirect	Induced	Total
432	Other state and local government enterprises	0.00E+00	5.74E+01	2.84E+02	3.41E+02

Annual Site O&M		Output			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.00E+05	2.00E+04	4.03E+04	1.60E+05
1	Oilseed farming	0.00E+00	1.01E-01	7.85E-01	8.86E-01
2	Grain farming	0.00E+00	1.34E+01	1.24E+01	2.58E+01
3	Vegetable and melon farming	0.00E+00	1.30E-01	5.80E+01	5.81E+01
4	Fruit farming	0.00E+00	2.75E-01	5.39E+01	5.42E+01
5	Tree nut farming	0.00E+00	5.30E-01	1.19E+01	1.24E+01
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.14E+01	1.28E+00	1.27E+01
9	Sugarcane and sugar beet farming	0.00E+00	1.94E-02	2.74E-02	4.68E-02
10	All other crop farming	0.00E+00	1.30E+02	7.63E+00	1.37E+02
11	Cattle ranching and farming	0.00E+00	5.50E+01	7.64E-01	5.58E+01
12	Dairy cattle and milk production	0.00E+00	4.33E-01	2.82E+00	3.26E+00
13	Poultry and egg production	0.00E+00	4.61E-03	1.93E+00	1.93E+00
14	Animal production, except cattle and poultry and eggs	0.00E+00	1.14E+02	6.08E+00	1.20E+02
15	Forestry, forest products, and timber tract production	0.00E+00	1.20E+01	3.83E-01	1.24E+01
18	Commercial hunting and trapping	0.00E+00	0.00E+00	3.07E-01	3.07E-01
19	Support activities for agriculture and forestry	6.00E+04	2.62E+01	2.40E+01	6.01E+04
20	Extraction of oil and natural gas	0.00E+00	2.17E+01	2.10E+01	4.27E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	1.81E+01	3.34E+00	2.14E+01
29	Support activities for oil and gas operations	0.00E+00	1.17E+00	1.11E+00	2.27E+00
31	Electric power generation, transmission, and distribution	0.00E+00	2.71E+02	5.52E+02	8.23E+02
32	Natural gas distribution	0.00E+00	3.11E+01	1.38E+01	4.49E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	8.65E-02	1.24E+00	1.32E+00
39	Maintenance and repair construction of nonresidential structures	4.00E+04	2.77E+02	2.72E+02	4.05E+04
40	Maintenance and repair construction of residential structures	0.00E+00	2.18E+00	1.14E+02	1.16E+02
41	Dog and cat food manufacturing	0.00E+00	1.84E-02	9.09E-01	9.28E-01
42	Other animal food manufacturing	0.00E+00	1.60E+02	1.94E+01	1.80E+02
43	Flour milling and malt manufacturing	0.00E+00	7.16E+01	4.36E+01	1.15E+02
52	Nonchocolate confectionery manufacturing	0.00E+00	8.98E-02	1.28E+00	1.37E+00
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	2.70E-01	3.44E+01	3.47E+01
62	Bread and bakery product manufacturing	0.00E+00	1.92E-02	2.71E+00	2.73E+00
64	Tortilla manufacturing	0.00E+00	1.01E-03	3.34E+00	3.34E+00
69	All other food manufacturing	0.00E+00	1.12E-01	5.88E+00	5.99E+00
70	Soft drink and ice manufacturing	0.00E+00	1.47E+00	3.32E+02	3.34E+02
71	Breweries	0.00E+00	1.45E-01	4.08E+01	4.09E+01
72	Wineries	0.00E+00	1.16E-01	2.12E+01	2.13E+01
76	Broadwoven fabric mills	0.00E+00	3.23E-02	3.65E-01	3.97E-01
80	Textile and fabric finishing mills	0.00E+00	4.26E-01	1.51E+00	1.94E+00
84	Textile bag and canvas mills	0.00E+00	3.41E-01	1.97E-02	3.61E-01
85	All other textile product mills	0.00E+00	4.04E+00	5.53E-01	4.59E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Output			
ID	Description	Direct	Indirect	Induced	Total
87	Cut and sew apparel contractors	0.00E+00	4.37E-01	1.74E+00	2.17E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.08E-02	8.91E-02	9.99E-02
93	Footwear manufacturing	0.00E+00	1.22E-11	4.44E-01	4.44E-01
95	Sawmills and wood preservation	0.00E+00	2.57E+02	9.11E+00	2.66E+02
97	Engineered wood member and truss manufacturing	0.00E+00	1.97E+00	1.80E-01	2.15E+00
99	Wood windows and doors and millwork manufacturing	0.00E+00	5.14E+00	2.96E-01	5.43E+00
100	Wood container and pallet manufacturing	0.00E+00	5.39E+00	8.77E+00	1.42E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	7.11E+00	7.02E-02	7.18E+00
103	All other miscellaneous wood product manufacturing	0.00E+00	1.23E+00	4.11E-01	1.64E+00
107	Paperboard container manufacturing	0.00E+00	6.48E+01	3.31E+01	9.79E+01
113	Printing	0.00E+00	3.44E+01	7.50E+01	1.09E+02
114	Support activities for printing	0.00E+00	3.02E-02	2.00E-02	5.02E-02
130	Fertilizer manufacturing	0.00E+00	4.15E+03	1.47E+01	4.16E+03
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.74E+03	4.49E+01	1.79E+03
133	Pharmaceutical preparation manufacturing	0.00E+00	2.45E-01	7.08E+00	7.33E+00
134	In-vitro diagnostic substance manufacturing	0.00E+00	4.18E-02	1.01E-01	1.43E-01
135	Biological product (except diagnostic) manufacturing	0.00E+00	4.97E+01	3.64E+00	5.33E+01
140	Printing ink manufacturing	0.00E+00	6.07E-01	4.97E-01	1.10E+00
141	All other chemical product and preparation manufacturing	0.00E+00	3.93E-01	1.11E-01	5.04E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.24E+00	8.04E-01	2.04E+00
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	2.81E+00	8.36E-01	3.64E+00
149	Other plastics product manufacturing	0.00E+00	1.01E+01	2.21E+00	1.23E+01
150	Tire manufacturing	0.00E+00	2.15E+00	1.59E+00	3.73E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	5.65E+01	7.20E+00	6.37E+01
163	Other concrete product manufacturing	0.00E+00	1.02E+02	1.19E+01	1.13E+02
167	Ground or treated mineral and earth manufacturing	0.00E+00	8.58E+01	1.06E+00	8.68E+01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	1.83E+01	1.44E+00	1.97E+01
186	Plate work and fabricated structural product manufacturing	0.00E+00	1.59E+01	1.10E+00	1.70E+01
187	Ornamental and architectural metal products manufacturing	0.00E+00	3.76E+01	2.45E+00	4.00E+01
194	Spring and wire product manufacturing	0.00E+00	2.30E+00	4.63E-01	2.77E+00
195	Machine shops	0.00E+00	6.65E-01	9.37E-02	7.59E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	1.68E-01	2.22E-02	1.90E-01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	3.60E+00	4.68E-01	4.07E+00
203	Farm machinery and equipment manufacturing	0.00E+00	7.16E-01	1.55E-01	8.72E-01
205	Construction machinery manufacturing	0.00E+00	9.66E-02	2.56E-03	9.91E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	5.69E-01	1.90E-02	5.88E-01
207	Other industrial machinery manufacturing	0.00E+00	2.35E-02	2.46E-02	4.80E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	3.39E-03	2.32E-03	5.70E-03
211	Optical instrument and lens manufacturing	0.00E+00	3.93E-03	4.12E-03	8.05E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	2.18E-03	1.20E-03	3.38E-03
226	Pump and pumping equipment manufacturing	0.00E+00	2.28E-01	1.38E-02	2.42E-01
228	Material handling equipment manufacturing	0.00E+00	8.86E-02	1.43E-02	1.03E-01
233	Fluid power process machinery manufacturing	0.00E+00	7.51E-02	2.11E-02	9.62E-02
234	Electronic computer manufacturing	0.00E+00	6.15E-03	8.89E-02	9.50E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Output			
ID	Description	Direct	Indirect	Induced	Total
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	1.86E-01	4.34E-01	6.21E-01
237	Telephone apparatus manufacturing	0.00E+00	6.39E-03	2.65E-02	3.28E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	1.49E-03	2.86E-02	3.01E-02
240	Audio and video equipment manufacturing	0.00E+00	1.30E-02	2.42E-02	3.72E-02
241	Electron tube manufacturing	0.00E+00	4.74E-03	8.53E-03	1.33E-02
243	Semiconductor and related device manufacturing	0.00E+00	1.04E-01	4.70E-02	1.51E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	1.50E-01	5.66E-02	2.07E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	6.11E-03	9.61E-03	1.57E-02
250	Automatic environmental control manufacturing	0.00E+00	5.17E-02	7.65E-03	5.93E-02
251	Industrial process variable instruments manufacturing	0.00E+00	2.64E-02	1.98E-02	4.62E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	6.56E-02	6.60E-02	1.32E-01
253	Electricity and signal testing instruments manufacturing	0.00E+00	1.61E-02	2.78E-03	1.89E-02
269	Relay and industrial control manufacturing	0.00E+00	2.84E-02	9.17E-03	3.76E-02
273	Wiring device manufacturing	0.00E+00	1.60E+01	9.72E-01	1.69E+01
279	Motor vehicle body manufacturing	0.00E+00	1.12E-01	6.48E-02	1.76E-01
280	Truck trailer manufacturing	0.00E+00	1.82E-02	6.17E-03	2.43E-02
282	Travel trailer and camper manufacturing	0.00E+00	2.10E-01	2.27E+00	2.48E+00
283	Motor vehicle parts manufacturing	0.00E+00	3.64E+00	1.61E+00	5.25E+00
284	Aircraft manufacturing	0.00E+00	1.69E-03	1.10E-02	1.27E-02
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	1.08E-03	3.55E-02	3.66E-02
294	All other transportation equipment manufacturing	0.00E+00	1.63E-02	3.70E-01	3.87E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	3.29E-01	1.31E-01	4.60E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	8.94E-04	5.42E-02	5.51E-02
300	Office Furniture	0.00E+00	5.33E-03	6.57E-01	6.62E-01
304	Blind and shade manufacturing	0.00E+00	6.24E-01	1.01E+00	1.63E+00
312	Doll, toy, and game manufacturing	0.00E+00	4.41E-03	2.51E+00	2.52E+00
313	Office supplies (except paper) manufacturing	0.00E+00	5.13E-02	4.72E-02	9.85E-02
317	All other miscellaneous manufacturing	0.00E+00	1.05E-01	1.78E+00	1.88E+00
319	Wholesale trade businesses	0.00E+00	1.34E+03	1.84E+03	3.18E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.94E+02	7.52E+02	9.47E+02
321	Retail Stores - Furniture and home furnishings	0.00E+00	2.82E+01	2.29E+02	2.57E+02
322	Retail Stores - Electronics and appliances	0.00E+00	1.95E+01	1.30E+02	1.50E+02
323	Retail Stores - Building material and garden supply	0.00E+00	1.29E+02	3.51E+02	4.81E+02
324	Retail Stores - Food and beverage	0.00E+00	1.34E+02	8.71E+02	1.01E+03
325	Retail Stores - Health and personal care	0.00E+00	4.83E+01	3.09E+02	3.57E+02
326	Retail Stores - Gasoline stations	0.00E+00	5.84E+01	2.97E+02	3.55E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	2.31E+01	1.64E+02	1.87E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	2.60E+01	1.82E+02	2.08E+02
329	Retail Stores - General merchandise	0.00E+00	1.27E+02	8.32E+02	9.59E+02
330	Retail Stores - Miscellaneous	0.00E+00	3.66E+01	2.49E+02	2.85E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	2.86E+01	2.32E+02	2.60E+02
332	Transport by air	0.00E+00	1.56E-01	6.56E-01	8.12E-01
333	Transport by rail	0.00E+00	4.30E+01	7.67E+00	5.06E+01
334	Transport by water	0.00E+00	2.52E+00	2.43E+00	4.95E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Output			
ID	Description	Direct	Indirect	Induced	Total
335	Transport by truck	0.00E+00	8.92E+02	3.49E+02	1.24E+03
336	Transit and ground passenger transportation	0.00E+00	1.52E+01	7.86E+01	9.38E+01
337	Transport by pipeline	0.00E+00	4.56E+00	4.25E+00	8.81E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	9.01E+01	8.99E+01	1.80E+02
339	Couriers and messengers	0.00E+00	7.73E+01	1.24E+02	2.01E+02
340	Warehousing and storage	0.00E+00	6.62E+01	1.37E+02	2.03E+02
341	Newspaper publishers	0.00E+00	1.66E+01	7.33E+01	8.99E+01
342	Periodical publishers	0.00E+00	3.06E+00	7.24E+00	1.03E+01
343	Book publishers	0.00E+00	1.77E-02	5.46E-01	5.64E-01
344	Directory, mailing list, and other publishers	0.00E+00	2.60E+00	7.41E+00	1.00E+01
345	Software publishers	0.00E+00	6.19E-01	4.40E-01	1.06E+00
346	Motion picture and video industries	0.00E+00	1.73E+01	8.83E+01	1.06E+02
347	Sound recording industries	0.00E+00	5.60E-01	2.32E+01	2.37E+01
348	Radio and television broadcasting	0.00E+00	8.62E+01	1.99E+02	2.85E+02
349	Cable and other subscription programming	0.00E+00	6.62E+00	1.68E+01	2.34E+01
350	Internet publishing and broadcasting	0.00E+00	1.00E+01	2.55E+01	3.55E+01
351	Telecommunications	0.00E+00	5.73E+02	1.24E+03	1.81E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	7.77E+00	3.95E+01	4.72E+01
353	Other information services	0.00E+00	6.37E-01	3.66E+00	4.30E+00
354	Monetary authorities and depository credit intermediation activities	0.00E+00	6.62E+02	1.89E+03	2.56E+03
355	Nondepository credit intermediation and related activities	0.00E+00	1.83E+02	8.11E+02	9.95E+02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	1.06E+02	8.69E+02	9.75E+02
357	Insurance carriers	0.00E+00	5.65E+01	4.12E+02	4.68E+02
358	Insurance agencies, brokerages, and related activities	0.00E+00	2.60E+01	1.60E+02	1.86E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	2.30E+00	4.50E+02	4.52E+02
360	Real estate establishments	0.00E+00	5.26E+02	3.13E+03	3.65E+03
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	6.11E+03	6.11E+03
362	Automotive equipment rental and leasing	0.00E+00	1.31E+02	2.19E+02	3.49E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	3.02E+00	3.25E+01	3.55E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	2.66E+01	2.66E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	6.45E+02	4.71E+01	6.92E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	3.65E+01	2.32E+01	5.97E+01
367	Legal services	0.00E+00	2.04E+02	1.72E+02	3.76E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.66E+02	1.02E+02	2.68E+02
369	Architectural, engineering, and related services	0.00E+00	2.51E+03	1.52E+02	2.66E+03
370	Specialized design services	0.00E+00	2.32E+01	1.45E+01	3.77E+01
371	Custom computer programming services	0.00E+00	1.58E+01	1.09E+01	2.67E+01
372	Computer systems design services	0.00E+00	9.76E+00	7.04E+00	1.68E+01
373	Other computer related services, including facilities management	0.00E+00	2.00E+01	1.12E+01	3.11E+01
374	Management, scientific, and technical consulting services	0.00E+00	1.86E+02	2.68E+02	4.53E+02
375	Environmental and other technical consulting services	0.00E+00	4.09E+01	2.81E+01	6.91E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Output			
ID	Description	Direct	Indirect	Induced	Total
376	Scientific research and development services	0.00E+00	2.45E+02	9.09E+01	3.36E+02
377	Advertising and related services	0.00E+00	5.75E+01	1.27E+02	1.85E+02
378	Photographic services	0.00E+00	5.63E+00	1.87E+01	2.43E+01
379	Veterinary services	0.00E+00	2.82E-01	9.62E+01	9.65E+01
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	2.19E+01	1.83E+01	4.01E+01
381	Management of companies and enterprises	0.00E+00	2.77E+02	2.00E+02	4.77E+02
382	Employment services	0.00E+00	4.93E+01	6.38E+01	1.13E+02
383	Travel arrangement and reservation services	0.00E+00	8.28E+00	1.56E+01	2.39E+01
384	Office administrative services	0.00E+00	3.00E+01	3.33E+01	6.33E+01
386	Business support services	0.00E+00	3.28E+01	4.80E+01	8.08E+01
387	Investigation and security services	0.00E+00	3.52E+01	7.55E+01	1.11E+02
388	Services to buildings and dwellings	0.00E+00	2.91E+02	3.39E+02	6.30E+02
389	Other support services	0.00E+00	1.71E+01	2.09E+01	3.80E+01
390	Waste management and remediation services	0.00E+00	8.47E+01	1.68E+02	2.53E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.82E+02	1.82E+02
393	Other private educational services	0.00E+00	1.16E+00	2.10E+02	2.11E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	9.42E-04	2.08E+03	2.08E+03
395	Home health care services	0.00E+00	0.00E+00	1.05E+02	1.05E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	9.07E-02	9.64E+02	9.65E+02
397	Private hospitals	0.00E+00	9.05E-04	1.48E+03	1.48E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	8.68E+02	8.68E+02
399	Child day care services	0.00E+00	0.00E+00	2.52E+02	2.52E+02
400	Individual and family services	0.00E+00	0.00E+00	1.89E+02	1.89E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.82E-04	1.65E+02	1.65E+02
402	Performing arts companies	0.00E+00	1.53E-01	3.23E+00	3.39E+00
403	Spectator sports companies	0.00E+00	2.18E+01	1.44E+02	1.65E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	9.52E-01	1.18E+01	1.27E+01
405	Independent artists, writers, and performers	0.00E+00	2.11E+01	4.37E+01	6.48E+01
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.55E+01	1.55E+01
407	Fitness and recreational sports centers	0.00E+00	7.44E+00	6.85E+01	7.60E+01
408	Bowling centers	0.00E+00	8.76E-03	3.96E+00	3.97E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	4.28E-02	1.91E+02	1.91E+02
410	Other amusement and recreation industries	0.00E+00	7.02E+00	1.02E+02	1.09E+02
411	Hotels and motels, including casino hotels	0.00E+00	2.48E+00	1.46E+01	1.71E+01
412	Other accommodations	0.00E+00	2.39E-03	1.86E-02	2.10E-02
413	Food services and drinking places	0.00E+00	1.87E+02	2.48E+03	2.67E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	3.10E+02	3.69E+02	6.78E+02
415	Car washes	0.00E+00	6.43E+00	3.30E+01	3.95E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	5.35E+01	4.52E+01	9.86E+01
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	2.28E+02	5.51E+01	2.83E+02
418	Personal and household goods repair and maintenance	0.00E+00	3.01E+01	3.23E+01	6.25E+01
419	Personal care services	0.00E+00	4.71E-04	1.76E+02	1.76E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site O&M		Output			
ID	Description	Direct	Indirect	Induced	Total
420	Death care services	0.00E+00	0.00E+00	7.23E+00	7.23E+00
421	Dry-cleaning and laundry services	0.00E+00	3.47E+01	5.81E+01	9.28E+01
422	Other personal services	0.00E+00	1.00E+01	2.67E+02	2.77E+02
423	Religious organizations	0.00E+00	0.00E+00	2.12E+02	2.12E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	8.42E-02	2.90E+02	2.90E+02
425	Civic, social, professional, and similar organizations	0.00E+00	6.41E+01	5.75E+02	6.39E+02
426	Private household operations	0.00E+00	0.00E+00	1.28E+02	1.28E+02
427	US Postal Service	0.00E+00	7.60E+01	1.62E+02	2.38E+02
429	Other Federal Government enterprises	0.00E+00	1.23E+01	7.84E+01	9.07E+01
430	State and local government passenger transit	0.00E+00	9.81E+00	5.08E+01	6.07E+01
431	State and local government electric utilities	0.00E+00	4.29E+01	9.96E+01	1.42E+02
432	Other state and local government enterprises	0.00E+00	1.88E+02	9.28E+02	1.12E+03

Annual Site Monitoring		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
0	Total	2.65E+00	5.50E-01	6.92E-01	3.89E+00
1	Oilseed farming	0.00E+00	7.40E-06	1.44E-05	2.18E-05
2	Grain farming	0.00E+00	1.21E-04	3.73E-04	4.94E-04
3	Vegetable and melon farming	0.00E+00	4.88E-06	3.19E-04	3.24E-04
4	Fruit farming	0.00E+00	9.56E-06	3.94E-04	4.04E-04
5	Tree nut farming	0.00E+00	4.36E-05	2.19E-04	2.63E-04
6	Greenhouse, nursery, and floriculture production	0.00E+00	4.76E-07	8.86E-06	9.34E-06
9	Sugarcane and sugar beet farming	0.00E+00	1.80E-06	1.64E-06	3.45E-06
10	All other crop farming	0.00E+00	3.68E-05	5.58E-05	9.26E-05
11	Cattle ranching and farming	0.00E+00	2.06E-06	8.94E-06	1.10E-05
12	Dairy cattle and milk production	0.00E+00	1.66E-05	3.16E-05	4.82E-05
13	Poultry and egg production	0.00E+00	3.25E-08	3.16E-06	3.19E-06
14	Animal production, except cattle and poultry and eggs	0.00E+00	1.01E-05	1.55E-04	1.65E-04
15	Forestry, forest products, and timber tract production	0.00E+00	1.11E-06	3.32E-06	4.42E-06
18	Commercial hunting and trapping	0.00E+00	0.00E+00	7.35E-06	7.35E-06
19	Support activities for agriculture and forestry	0.00E+00	1.07E-04	1.16E-03	1.27E-03
20	Extraction of oil and natural gas	0.00E+00	9.61E-05	2.29E-04	3.25E-04
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	3.48E-05	5.71E-05	9.19E-05
29	Support activities for oil and gas operations	0.00E+00	7.04E-06	1.28E-05	1.98E-05
31	Electric power generation, transmission, and distribution	0.00E+00	6.38E-04	1.62E-03	2.26E-03
32	Natural gas distribution	0.00E+00	8.92E-06	2.70E-05	3.60E-05
33	Water, sewage and other treatment and delivery systems	0.00E+00	1.63E-06	1.11E-05	1.27E-05
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.97E-03	3.91E-03	7.88E-03
40	Maintenance and repair construction of residential structures	0.00E+00	1.23E-04	1.87E-03	2.00E-03
41	Dog and cat food manufacturing	0.00E+00	2.52E-08	1.56E-06	1.59E-06
42	Other animal food manufacturing	0.00E+00	3.13E-06	3.93E-05	4.24E-05
43	Flour milling and malt manufacturing	0.00E+00	3.70E-06	8.96E-05	9.33E-05
52	Nonchocolate confectionery manufacturing	0.00E+00	2.78E-07	7.61E-06	7.89E-06

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	8.08E-06	1.51E-04	1.59E-04
62	Bread and bakery product manufacturing	0.00E+00	2.24E-06	4.37E-05	4.59E-05
64	Tortilla manufacturing	0.00E+00	5.70E-08	3.94E-05	3.94E-05
69	All other food manufacturing	0.00E+00	3.57E-06	4.04E-05	4.40E-05
70	Soft drink and ice manufacturing	0.00E+00	3.19E-05	1.02E-03	1.05E-03
71	Breweries	0.00E+00	1.88E-06	7.55E-05	7.74E-05
72	Wineries	0.00E+00	4.32E-06	1.05E-04	1.10E-04
76	Broadwoven fabric mills	0.00E+00	2.76E-07	3.61E-06	3.89E-06
80	Textile and fabric finishing mills	0.00E+00	3.11E-06	1.92E-05	2.23E-05
84	Textile bag and canvas mills	0.00E+00	5.82E-08	3.19E-07	3.77E-07
85	All other textile product mills	0.00E+00	3.03E-06	7.84E-06	1.09E-05
87	Cut and sew apparel contractors	0.00E+00	2.26E-05	6.51E-05	8.77E-05
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.47E-08	1.99E-06	2.01E-06
93	Footwear manufacturing	0.00E+00	1.03E-17	7.50E-06	7.50E-06
95	Sawmills and wood preservation	0.00E+00	4.61E-05	8.92E-05	1.35E-04
97	Engineered wood member and truss manufacturing	0.00E+00	1.28E-06	2.82E-06	4.10E-06
99	Wood windows and doors and millwork manufacturing	0.00E+00	2.09E-06	4.30E-06	6.40E-06
100	Wood container and pallet manufacturing	0.00E+00	4.94E-05	1.46E-04	1.95E-04
101	Manufactured home (mobile home) manufacturing	0.00E+00	8.67E-07	1.14E-06	2.01E-06
103	All other miscellaneous wood product manufacturing	0.00E+00	1.30E-06	5.74E-06	7.04E-06
107	Paperboard container manufacturing	0.00E+00	5.98E-04	2.05E-04	8.03E-04
113	Printing	0.00E+00	2.16E-03	1.11E-03	3.28E-03
114	Support activities for printing	0.00E+00	4.03E-06	4.32E-07	4.46E-06
130	Fertilizer manufacturing	0.00E+00	7.09E-06	2.77E-05	3.47E-05
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	3.21E-06	7.33E-05	7.66E-05
133	Pharmaceutical preparation manufacturing	0.00E+00	1.60E-08	1.20E-05	1.20E-05
134	In-vitro diagnostic substance manufacturing	0.00E+00	2.37E-08	6.06E-07	6.29E-07
135	Biological product (except diagnostic) manufacturing	0.00E+00	9.32E-07	1.16E-05	1.25E-05
140	Printing ink manufacturing	0.00E+00	6.13E-06	2.73E-06	8.86E-06
141	All other chemical product and preparation manufacturing	0.00E+00	1.09E-06	4.72E-07	1.56E-06
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	4.22E-06	5.22E-06	9.44E-06
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.38E-05	6.90E-06	2.07E-05
149	Other plastics product manufacturing	0.00E+00	1.66E-05	2.28E-05	3.94E-05
150	Tire manufacturing	0.00E+00	2.11E-06	1.23E-05	1.44E-05
162	Concrete pipe, brick, and block manufacturing	0.00E+00	4.68E-05	5.60E-05	1.03E-04
163	Other concrete product manufacturing	0.00E+00	1.44E-04	1.27E-04	2.71E-04
167	Ground or treated mineral and earth manufacturing	0.00E+00	1.40E-06	3.85E-06	5.25E-06
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	4.92E-04	8.34E-06	5.00E-04
186	Plate work and fabricated structural product manufacturing	0.00E+00	8.09E-06	9.96E-06	1.80E-05
187	Ornamental and architectural metal products manufacturing	0.00E+00	2.41E-05	3.05E-05	5.47E-05
194	Spring and wire product manufacturing	0.00E+00	4.61E-06	5.19E-06	9.79E-06
195	Machine shops	0.00E+00	4.45E-06	1.53E-06	5.98E-06
197	Coating, engraving, heat treating and allied activities	0.00E+00	3.01E-07	2.87E-07	5.88E-07
198	Valve and fittings other than plumbing manufacturing	0.00E+00	3.39E-06	3.53E-06	6.92E-06

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
203	Farm machinery and equipment manufacturing	0.00E+00	3.23E-07	7.63E-07	1.09E-06
205	Construction machinery manufacturing	0.00E+00	2.45E-08	1.08E-08	3.53E-08
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.39E-07	8.78E-08	2.27E-07
207	Other industrial machinery manufacturing	0.00E+00	1.11E-07	2.44E-07	3.56E-07
208	Plastics and rubber industry machinery manufacturing	0.00E+00	2.07E-08	2.57E-08	4.64E-08
211	Optical instrument and lens manufacturing	0.00E+00	1.38E-08	3.65E-08	5.03E-08
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	1.60E-07	2.61E-08	1.86E-07
226	Pump and pumping equipment manufacturing	0.00E+00	5.36E-08	8.86E-08	1.42E-07
228	Material handling equipment manufacturing	0.00E+00	7.66E-08	1.06E-07	1.83E-07
233	Fluid power process machinery manufacturing	0.00E+00	3.22E-07	1.91E-07	5.12E-07
234	Electronic computer manufacturing	0.00E+00	1.53E-07	1.63E-07	3.16E-07
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	5.96E-06	2.83E-06	8.79E-06
237	Telephone apparatus manufacturing	0.00E+00	1.08E-07	9.14E-08	1.99E-07
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	7.38E-08	1.49E-07	2.22E-07
240	Audio and video equipment manufacturing	0.00E+00	2.66E-08	1.39E-07	1.65E-07
241	Electron tube manufacturing	0.00E+00	1.55E-07	7.35E-08	2.29E-07
243	Semiconductor and related device manufacturing	0.00E+00	2.61E-07	1.67E-07	4.27E-07
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	9.39E-07	5.51E-07	1.49E-06
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.95E-08	5.89E-08	7.84E-08
250	Automatic environmental control manufacturing	0.00E+00	7.61E-08	7.03E-08	1.46E-07
251	Industrial process variable instruments manufacturing	0.00E+00	2.59E-07	1.82E-07	4.42E-07
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.83E-07	3.84E-07	5.67E-07
253	Electricity and signal testing instruments manufacturing	0.00E+00	1.56E-08	2.02E-08	3.58E-08
269	Relay and industrial control manufacturing	0.00E+00	8.15E-08	7.28E-08	1.54E-07
273	Wiring device manufacturing	0.00E+00	5.19E-06	7.82E-06	1.30E-05
279	Motor vehicle body manufacturing	0.00E+00	2.25E-07	4.25E-07	6.50E-07
280	Truck trailer manufacturing	0.00E+00	3.92E-08	6.08E-08	1.00E-07
282	Travel trailer and camper manufacturing	0.00E+00	3.14E-06	2.64E-05	2.95E-05
283	Motor vehicle parts manufacturing	0.00E+00	7.59E-06	1.18E-05	1.94E-05
284	Aircraft manufacturing	0.00E+00	1.50E-08	4.51E-08	6.01E-08
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	8.29E-09	1.59E-07	1.67E-07
294	All other transportation equipment manufacturing	0.00E+00	2.99E-08	1.82E-06	1.85E-06
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	3.89E-07	2.32E-06	2.71E-06
297	Nonupholstered wood household furniture manufacturing	0.00E+00	4.23E-10	9.83E-07	9.83E-07
300	Office Furniture	0.00E+00	4.72E-09	6.74E-06	6.75E-06
304	Blind and shade manufacturing	0.00E+00	1.66E-05	1.83E-05	3.48E-05
312	Doll, toy, and game manufacturing	0.00E+00	9.73E-08	1.18E-05	1.19E-05
313	Office supplies (except paper) manufacturing	0.00E+00	1.11E-06	4.90E-07	1.60E-06
317	All other miscellaneous manufacturing	0.00E+00	2.18E-05	1.73E-05	3.91E-05
319	Wholesale trade businesses	0.00E+00	6.44E-03	2.99E-02	3.63E-02
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.99E-04	1.58E-02	1.60E-02
321	Retail Stores - Furniture and home furnishings	0.00E+00	2.99E-05	4.97E-03	5.00E-03
322	Retail Stores - Electronics and appliances	0.00E+00	2.13E-05	2.92E-03	2.94E-03
323	Retail Stores - Building material and garden supply	0.00E+00	1.55E-04	8.60E-03	8.75E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
324	Retail Stores - Food and beverage	0.00E+00	1.87E-04	2.50E-02	2.51E-02
325	Retail Stores - Health and personal care	0.00E+00	6.20E-05	8.10E-03	8.16E-03
326	Retail Stores - Gasoline stations	0.00E+00	3.00E-05	3.13E-03	3.16E-03
327	Retail Stores - Clothing and clothing accessories	0.00E+00	4.06E-05	5.91E-03	5.95E-03
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	5.05E-05	7.22E-03	7.27E-03
329	Retail Stores - General merchandise	0.00E+00	2.21E-04	2.96E-02	2.98E-02
330	Retail Stores - Miscellaneous	0.00E+00	6.72E-05	9.34E-03	9.41E-03
331	Retail Nonstores - Direct and electronic sales	0.00E+00	5.37E-05	8.91E-03	8.97E-03
332	Transport by air	0.00E+00	7.61E-06	8.27E-06	1.59E-05
333	Transport by rail	0.00E+00	6.70E-05	5.77E-05	1.25E-04
334	Transport by water	0.00E+00	2.38E-06	1.17E-05	1.40E-05
335	Transport by truck	0.00E+00	2.78E-03	5.62E-03	8.40E-03
336	Transit and ground passenger transportation	0.00E+00	3.29E-03	2.41E-03	5.71E-03
337	Transport by pipeline	0.00E+00	4.49E-06	1.85E-05	2.30E-05
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.98E-03	1.73E-03	4.71E-03
339	Couriers and messengers	0.00E+00	6.59E-03	2.47E-03	9.05E-03
340	Warehousing and storage	0.00E+00	2.75E-03	3.02E-03	5.77E-03
341	Newspaper publishers	0.00E+00	1.09E-03	1.29E-03	2.38E-03
342	Periodical publishers	0.00E+00	1.21E-04	5.46E-05	1.76E-04
343	Book publishers	0.00E+00	9.86E-07	3.66E-06	4.64E-06
344	Directory, mailing list, and other publishers	0.00E+00	1.03E-04	4.46E-05	1.48E-04
345	Software publishers	0.00E+00	1.55E-05	2.09E-06	1.75E-05
346	Motion picture and video industries	0.00E+00	6.14E-04	7.45E-04	1.36E-03
347	Sound recording industries	0.00E+00	4.05E-06	4.12E-05	4.52E-05
348	Radio and television broadcasting	0.00E+00	3.60E-03	2.18E-03	5.78E-03
349	Cable and other subscription programming	0.00E+00	1.77E-04	1.22E-04	2.99E-04
350	Internet publishing and broadcasting	0.00E+00	1.17E-03	2.57E-04	1.43E-03
351	Telecommunications	0.00E+00	9.32E-03	5.91E-03	1.52E-02
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	1.11E-04	2.71E-04	3.82E-04
353	Other information services	0.00E+00	9.54E-06	1.17E-05	2.12E-05
354	Monetary authorities and depository credit intermediation activities	0.00E+00	1.01E-02	1.05E-02	2.07E-02
355	Nondepository credit intermediation and related activities	0.00E+00	7.17E-03	1.40E-02	2.12E-02
356	Securities, commodity contracts, investments, and related activities	0.00E+00	7.76E-03	2.02E-02	2.80E-02
357	Insurance carriers	0.00E+00	3.04E-03	2.92E-03	5.96E-03
358	Insurance agencies, brokerages, and related activities	0.00E+00	3.36E-03	2.57E-03	5.93E-03
359	Funds, trusts, and other financial vehicles	0.00E+00	1.04E-04	3.50E-03	3.61E-03
360	Real estate establishments	0.00E+00	3.71E-02	3.49E-02	7.20E-02
362	Automotive equipment rental and leasing	0.00E+00	2.48E-03	2.03E-03	4.52E-03
363	General and consumer goods rental except video tapes and discs	0.00E+00	2.29E-04	8.13E-04	1.04E-03
364	Video tape and disc rental	0.00E+00	0.00E+00	7.43E-04	7.43E-04
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.32E-03	3.48E-04	1.66E-03
366	Lessors of nonfinancial intangible assets	0.00E+00	1.17E-04	2.38E-05	1.41E-04

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
367	Legal services	0.00E+00	4.87E-03	3.22E-03	8.09E-03
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.44E-02	2.78E-03	1.72E-02
369	Architectural, engineering, and related services	0.00E+00	8.24E-02	3.30E-03	8.57E-02
370	Specialized design services	0.00E+00	1.70E-03	3.09E-04	2.01E-03
371	Custom computer programming services	0.00E+00	1.89E-03	2.40E-04	2.13E-03
372	Computer systems design services	0.00E+00	3.07E-03	3.81E-04	3.45E-03
373	Other computer related services, including facilities management	0.00E+00	8.92E-04	9.42E-05	9.87E-04
374	Management, scientific, and technical consulting services	0.00E+00	4.61E-02	6.10E-03	5.22E-02
375	Environmental and other technical consulting services	2.65E+00	7.98E-03	7.30E-04	2.66E+00
376	Scientific research and development services	0.00E+00	4.65E-03	1.48E-03	6.13E-03
377	Advertising and related services	0.00E+00	4.43E-03	2.57E-03	7.00E-03
378	Photographic services	0.00E+00	5.02E-03	4.30E-04	5.45E-03
379	Veterinary services	0.00E+00	9.38E-06	3.48E-03	3.49E-03
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	6.07E-04	1.86E-04	7.93E-04
381	Management of companies and enterprises	0.00E+00	7.76E-03	2.54E-03	1.03E-02
382	Employment services	0.00E+00	4.49E-02	4.05E-03	4.90E-02
383	Travel arrangement and reservation services	0.00E+00	1.52E-03	2.59E-04	1.78E-03
384	Office administrative services	0.00E+00	7.30E-03	6.84E-04	7.98E-03
386	Business support services	0.00E+00	7.64E-03	2.02E-03	9.66E-03
387	Investigation and security services	0.00E+00	1.99E-02	5.16E-03	2.51E-02
388	Services to buildings and dwellings	0.00E+00	3.61E-02	1.24E-02	4.86E-02
389	Other support services	0.00E+00	6.19E-03	4.74E-04	6.66E-03
390	Waste management and remediation services	0.00E+00	1.67E-03	1.82E-03	3.50E-03
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.24E-02	1.24E-02
393	Other private educational services	0.00E+00	1.36E-04	1.22E-02	1.24E-02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	9.39E-08	3.33E-02	3.33E-02
395	Home health care services	0.00E+00	0.00E+00	3.55E-03	3.55E-03
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	7.94E-06	1.36E-02	1.36E-02
397	Private hospitals	0.00E+00	7.85E-08	2.06E-02	2.06E-02
398	Nursing and residential care facilities	0.00E+00	0.00E+00	3.21E-02	3.21E-02
399	Child day care services	0.00E+00	0.00E+00	1.31E-02	1.31E-02
400	Individual and family services	0.00E+00	0.00E+00	8.98E-03	8.98E-03
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	4.15E-10	7.73E-03	7.73E-03
402	Performing arts companies	0.00E+00	4.64E-04	3.21E-04	7.85E-04
403	Spectator sports companies	0.00E+00	7.85E-03	8.96E-03	1.68E-02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	5.23E-04	5.36E-04	1.06E-03
405	Independent artists, writers, and performers	0.00E+00	1.97E-03	4.66E-04	2.44E-03
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	3.17E-04	3.17E-04
407	Fitness and recreational sports centers	0.00E+00	2.33E-03	4.12E-03	6.45E-03
408	Bowling centers	0.00E+00	2.11E-06	1.73E-04	1.75E-04
409	Amusement parks, arcades, and gambling industries	0.00E+00	5.33E-06	4.26E-03	4.26E-03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		FTE Employment			
ID	Description	Direct	Indirect	Induced	Total
410	Other amusement and recreation industries	0.00E+00	1.67E-03	3.10E-03	4.77E-03
411	Hotels and motels, including casino hotels	0.00E+00	3.26E-04	3.04E-04	6.30E-04
412	Other accommodations	0.00E+00	4.38E-07	5.28E-07	9.66E-07
413	Food services and drinking places	0.00E+00	4.62E-02	8.10E-02	1.27E-01
414	Automotive repair and maintenance, except car washes	0.00E+00	7.92E-03	7.82E-03	1.57E-02
415	Car washes	0.00E+00	6.73E-04	1.91E-03	2.58E-03
416	Electronic and precision equipment repair and maintenance	0.00E+00	6.38E-03	5.81E-04	6.97E-03
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	6.54E-03	1.18E-03	7.73E-03
418	Personal and household goods repair and maintenance	0.00E+00	8.00E-04	4.23E-04	1.22E-03
419	Personal care services	0.00E+00	7.76E-10	5.84E-03	5.84E-03
420	Death care services	0.00E+00	0.00E+00	2.55E-04	2.55E-04
421	Dry-cleaning and laundry services	0.00E+00	1.00E-03	1.71E-03	2.71E-03
422	Other personal services	0.00E+00	1.46E-02	3.84E-03	1.85E-02
423	Religious organizations	0.00E+00	0.00E+00	3.23E-03	3.23E-03
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	2.22E-06	5.06E-03	5.07E-03
425	Civic, social, professional, and similar organizations	0.00E+00	4.13E-03	1.11E-02	1.53E-02
426	Private household operations	0.00E+00	0.00E+00	2.69E-02	2.69E-02
427	US Postal Service	0.00E+00	5.87E-03	3.21E-03	9.08E-03
429	Other Federal Government enterprises	0.00E+00	1.95E-04	4.31E-04	6.25E-04
430	State and local government passenger transit	0.00E+00	2.84E-03	2.08E-03	4.92E-03
431	State and local government electric utilities	0.00E+00	2.13E-04	5.33E-04	7.45E-04
432	Other state and local government enterprises	0.00E+00	2.46E-03	7.01E-03	9.46E-03

Annual Site Monitoring		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.53E+05	2.51E+04	3.08E+04	2.09E+05
1	Oilseed farming	0.00E+00	1.39E-01	2.71E-01	4.10E-01
2	Grain farming	0.00E+00	1.30E+00	3.99E+00	5.29E+00
3	Vegetable and melon farming	0.00E+00	1.02E+00	6.71E+01	6.81E+01
4	Fruit farming	0.00E+00	1.70E+00	7.02E+01	7.19E+01
5	Tree nut farming	0.00E+00	3.25E+00	1.63E+01	1.96E+01
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.33E-01	2.47E+00	2.60E+00
9	Sugarcane and sugar beet farming	0.00E+00	1.96E-02	1.79E-02	3.75E-02
10	All other crop farming	0.00E+00	3.55E+00	5.39E+00	8.94E+00
11	Cattle ranching and farming	0.00E+00	4.44E-02	1.93E-01	2.37E-01
12	Dairy cattle and milk production	0.00E+00	2.89E-01	5.48E-01	8.37E-01
13	Poultry and egg production	0.00E+00	6.84E-03	6.65E-01	6.72E-01
14	Animal production, except cattle and poultry and eggs	0.00E+00	2.12E-01	3.24E+00	3.46E+00
15	Forestry, forest products, and timber tract production	0.00E+00	7.95E-02	2.38E-01	3.18E-01
18	Commercial hunting and trapping	0.00E+00	0.00E+00	1.79E-01	1.79E-01
19	Support activities for agriculture and forestry	0.00E+00	4.52E+00	4.89E+01	5.34E+01
20	Extraction of oil and natural gas	0.00E+00	5.49E+00	1.31E+01	1.86E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	2.36E+00	3.87E+00	6.23E+00
29	Support activities for oil and gas operations	0.00E+00	5.29E-01	9.58E-01	1.49E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
31	Electric power generation, transmission, and distribution	0.00E+00	1.23E+02	3.12E+02	4.34E+02
32	Natural gas distribution	0.00E+00	1.41E+00	4.28E+00	5.69E+00
33	Water, sewage and other treatment and delivery systems	0.00E+00	1.24E-01	8.50E-01	9.74E-01
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.06E+02	3.01E+02	6.06E+02
40	Maintenance and repair construction of residential structures	0.00E+00	7.30E+00	1.12E+02	1.19E+02
41	Dog and cat food manufacturing	0.00E+00	2.92E-03	1.81E-01	1.84E-01
42	Other animal food manufacturing	0.00E+00	2.58E-01	3.24E+00	3.50E+00
43	Flour milling and malt manufacturing	0.00E+00	2.60E-01	6.29E+00	6.55E+00
52	Nonchocolate confectionery manufacturing	0.00E+00	1.84E-02	5.04E-01	5.23E-01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	5.09E-01	9.49E+00	1.00E+01
62	Bread and bakery product manufacturing	0.00E+00	2.79E-02	5.45E-01	5.73E-01
64	Tortilla manufacturing	0.00E+00	6.92E-04	4.78E-01	4.79E-01
69	All other food manufacturing	0.00E+00	2.05E-01	2.32E+00	2.52E+00
70	Soft drink and ice manufacturing	0.00E+00	2.80E+00	8.96E+01	9.24E+01
71	Breweries	0.00E+00	2.24E-01	8.99E+00	9.21E+00
72	Wineries	0.00E+00	3.86E-01	9.42E+00	9.80E+00
76	Broadwoven fabric mills	0.00E+00	1.05E-02	1.38E-01	1.48E-01
80	Textile and fabric finishing mills	0.00E+00	1.15E-01	7.13E-01	8.28E-01
84	Textile bag and canvas mills	0.00E+00	2.87E-03	1.57E-02	1.86E-02
85	All other textile product mills	0.00E+00	1.16E-01	2.99E-01	4.15E-01
87	Cut and sew apparel contractors	0.00E+00	5.52E-01	1.59E+00	2.14E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	3.46E-04	4.68E-02	4.72E-02
93	Footwear manufacturing	0.00E+00	4.66E-13	3.40E-01	3.40E-01
95	Sawmills and wood preservation	0.00E+00	2.68E+00	5.17E+00	7.85E+00
97	Engineered wood member and truss manufacturing	0.00E+00	6.08E-02	1.35E-01	1.95E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	9.63E-02	1.98E-01	2.95E-01
100	Wood container and pallet manufacturing	0.00E+00	2.68E+00	7.90E+00	1.06E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	3.87E-02	5.11E-02	8.98E-02
103	All other miscellaneous wood product manufacturing	0.00E+00	5.58E-02	2.47E-01	3.03E-01
107	Paperboard container manufacturing	0.00E+00	3.89E+01	1.33E+01	5.22E+01
113	Printing	0.00E+00	1.14E+02	5.88E+01	1.73E+02
114	Support activities for printing	0.00E+00	2.10E-01	2.25E-02	2.32E-01
130	Fertilizer manufacturing	0.00E+00	8.14E-01	3.18E+00	3.99E+00
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	4.18E-01	9.56E+00	9.97E+00
133	Pharmaceutical preparation manufacturing	0.00E+00	9.98E-04	7.49E-01	7.50E-01
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.14E-03	2.92E-02	3.04E-02
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.05E-01	1.30E+00	1.40E+00
140	Printing ink manufacturing	0.00E+00	7.68E-01	3.42E-01	1.11E+00
141	All other chemical product and preparation manufacturing	0.00E+00	1.41E-01	6.10E-02	2.02E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	3.45E-01	4.26E-01	7.71E-01
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.11E+00	5.56E-01	1.67E+00
149	Other plastics product manufacturing	0.00E+00	9.21E-01	1.26E+00	2.18E+00
150	Tire manufacturing	0.00E+00	1.33E-01	7.76E-01	9.10E-01
162	Concrete pipe, brick, and block manufacturing	0.00E+00	4.35E+00	5.20E+00	9.55E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
163	Other concrete product manufacturing	0.00E+00	1.25E+01	1.10E+01	2.35E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	1.52E-01	4.20E-01	5.73E-01
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	4.11E+01	6.97E-01	4.18E+01
186	Plate work and fabricated structural product manufacturing	0.00E+00	6.08E-01	7.49E-01	1.36E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.29E+00	1.63E+00	2.92E+00
194	Spring and wire product manufacturing	0.00E+00	2.61E-01	2.94E-01	5.55E-01
195	Machine shops	0.00E+00	2.83E-01	9.70E-02	3.80E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	1.61E-02	1.54E-02	3.15E-02
198	Valve and fittings other than plumbing manufacturing	0.00E+00	2.62E-01	2.73E-01	5.35E-01
203	Farm machinery and equipment manufacturing	0.00E+00	1.89E-02	4.47E-02	6.36E-02
205	Construction machinery manufacturing	0.00E+00	1.88E-03	8.30E-04	2.71E-03
206	Mining and oil and gas field machinery manufacturing	0.00E+00	1.72E-02	1.09E-02	2.81E-02
207	Other industrial machinery manufacturing	0.00E+00	9.16E-03	2.01E-02	2.93E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	6.74E-04	8.36E-04	1.51E-03
211	Optical instrument and lens manufacturing	0.00E+00	6.26E-04	1.65E-03	2.27E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	4.85E-03	7.93E-04	5.65E-03
226	Pump and pumping equipment manufacturing	0.00E+00	3.14E-03	5.20E-03	8.34E-03
228	Material handling equipment manufacturing	0.00E+00	3.52E-03	4.88E-03	8.40E-03
233	Fluid power process machinery manufacturing	0.00E+00	2.05E-02	1.22E-02	3.27E-02
234	Electronic computer manufacturing	0.00E+00	4.20E-02	4.46E-02	8.66E-02
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	9.77E-01	4.63E-01	1.44E+00
237	Telephone apparatus manufacturing	0.00E+00	1.39E-02	1.18E-02	2.57E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	5.49E-03	1.11E-02	1.65E-02
240	Audio and video equipment manufacturing	0.00E+00	2.06E-03	1.07E-02	1.28E-02
241	Electron tube manufacturing	0.00E+00	1.63E-02	7.70E-03	2.40E-02
243	Semiconductor and related device manufacturing	0.00E+00	3.83E-02	2.46E-02	6.29E-02
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	5.05E-02	2.96E-02	8.02E-02
249	Search, detection, and navigation instruments manufacturing	0.00E+00	1.80E-03	5.43E-03	7.22E-03
250	Automatic environmental control manufacturing	0.00E+00	4.62E-03	4.27E-03	8.89E-03
251	Industrial process variable instruments manufacturing	0.00E+00	1.67E-02	1.17E-02	2.85E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.10E-02	2.31E-02	3.41E-02
253	Electricity and signal testing instruments manufacturing	0.00E+00	1.69E-03	2.19E-03	3.87E-03
269	Relay and industrial control manufacturing	0.00E+00	5.34E-03	4.76E-03	1.01E-02
273	Wiring device manufacturing	0.00E+00	3.82E-01	5.76E-01	9.59E-01
279	Motor vehicle body manufacturing	0.00E+00	2.25E-02	4.26E-02	6.51E-02
280	Truck trailer manufacturing	0.00E+00	2.22E-03	3.44E-03	5.66E-03
282	Travel trailer and camper manufacturing	0.00E+00	1.26E-01	1.06E+00	1.19E+00
283	Motor vehicle parts manufacturing	0.00E+00	2.34E-01	3.65E-01	5.99E-01
284	Aircraft manufacturing	0.00E+00	9.86E-04	2.96E-03	3.95E-03
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	2.33E-04	4.47E-03	4.70E-03
294	All other transportation equipment manufacturing	0.00E+00	1.69E-03	1.03E-01	1.04E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	2.23E-02	1.33E-01	1.55E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	2.19E-05	5.08E-02	5.09E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
300	Office Furniture	0.00E+00	2.06E-04	2.94E-01	2.94E-01
304	Blind and shade manufacturing	0.00E+00	6.23E-01	6.88E-01	1.31E+00
312	Doll, toy, and game manufacturing	0.00E+00	2.09E-02	2.52E+00	2.55E+00
313	Office supplies (except paper) manufacturing	0.00E+00	9.34E-02	4.10E-02	1.34E-01
317	All other miscellaneous manufacturing	0.00E+00	2.00E+00	1.58E+00	3.58E+00
319	Wholesale trade businesses	0.00E+00	3.48E+02	1.61E+03	1.96E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.28E+01	1.01E+03	1.03E+03
321	Retail Stores - Furniture and home furnishings	0.00E+00	1.40E+00	2.33E+02	2.34E+02
322	Retail Stores - Electronics and appliances	0.00E+00	6.60E-01	9.03E+01	9.09E+01
323	Retail Stores - Building material and garden supply	0.00E+00	7.67E+00	4.27E+02	4.35E+02
324	Retail Stores - Food and beverage	0.00E+00	9.06E+00	1.21E+03	1.22E+03
325	Retail Stores - Health and personal care	0.00E+00	2.96E+00	3.87E+02	3.90E+02
326	Retail Stores - Gasoline stations	0.00E+00	3.92E+00	4.08E+02	4.12E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	1.04E+00	1.52E+02	1.53E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	1.25E+00	1.79E+02	1.80E+02
329	Retail Stores - General merchandise	0.00E+00	7.51E+00	1.01E+03	1.01E+03
330	Retail Stores - Miscellaneous	0.00E+00	1.76E+00	2.45E+02	2.46E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	7.35E-01	1.22E+02	1.23E+02
332	Transport by air	0.00E+00	1.09E-02	1.19E-02	2.28E-02
333	Transport by rail	0.00E+00	7.09E+00	6.11E+00	1.32E+01
334	Transport by water	0.00E+00	2.23E-01	1.09E+00	1.32E+00
335	Transport by truck	0.00E+00	2.25E+02	4.55E+02	6.80E+02
336	Transit and ground passenger transportation	0.00E+00	1.66E+02	1.21E+02	2.87E+02
337	Transport by pipeline	0.00E+00	5.12E-01	2.11E+00	2.62E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.05E+02	1.19E+02	3.23E+02
339	Couriers and messengers	0.00E+00	4.15E+02	1.55E+02	5.70E+02
340	Warehousing and storage	0.00E+00	1.53E+02	1.68E+02	3.21E+02
341	Newspaper publishers	0.00E+00	5.41E+01	6.38E+01	1.18E+02
342	Periodical publishers	0.00E+00	8.54E+00	3.86E+00	1.24E+01
343	Book publishers	0.00E+00	5.94E-02	2.21E-01	2.80E-01
344	Directory, mailing list, and other publishers	0.00E+00	7.08E+00	3.06E+00	1.01E+01
345	Software publishers	0.00E+00	1.47E+00	1.98E-01	1.67E+00
346	Motion picture and video industries	0.00E+00	1.24E+01	1.50E+01	2.74E+01
347	Sound recording industries	0.00E+00	2.55E-01	2.59E+00	2.85E+00
348	Radio and television broadcasting	0.00E+00	2.43E+02	1.47E+02	3.91E+02
349	Cable and other subscription programming	0.00E+00	5.10E+00	3.53E+00	8.63E+00
350	Internet publishing and broadcasting	0.00E+00	1.18E+02	2.60E+01	1.44E+02
351	Telecommunications	0.00E+00	6.73E+02	4.27E+02	1.10E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	3.50E+00	8.56E+00	1.21E+01
353	Other information services	0.00E+00	3.91E-01	4.78E-01	8.69E-01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	4.84E+02	5.02E+02	9.86E+02
355	Nondepository credit intermediation and related activities	0.00E+00	4.71E+02	9.20E+02	1.39E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	5.07E+01	1.32E+02	1.83E+02
357	Insurance carriers	0.00E+00	2.21E+02	2.12E+02	4.33E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
358	Insurance agencies, brokerages, and related activities	0.00E+00	2.91E+02	2.23E+02	5.15E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	3.81E+00	1.29E+02	1.32E+02
360	Real estate establishments	0.00E+00	8.33E+02	7.83E+02	1.62E+03
362	Automotive equipment rental and leasing	0.00E+00	1.46E+02	1.20E+02	2.66E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	9.15E+00	3.25E+01	4.17E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	1.21E+01	1.21E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	1.05E+02	2.76E+01	1.32E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	6.75E+00	1.37E+00	8.12E+00
367	Legal services	0.00E+00	1.82E+02	1.21E+02	3.03E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	5.11E+02	9.89E+01	6.10E+02
369	Architectural, engineering, and related services	0.00E+00	4.78E+03	1.92E+02	4.97E+03
370	Specialized design services	0.00E+00	4.59E+01	8.31E+00	5.42E+01
371	Custom computer programming services	0.00E+00	1.36E+02	1.72E+01	1.53E+02
372	Computer systems design services	0.00E+00	1.74E+02	2.16E+01	1.96E+02
373	Other computer related services, including facilities management	0.00E+00	4.98E+01	5.26E+00	5.51E+01
374	Management, scientific, and technical consulting services	0.00E+00	2.59E+03	3.43E+02	2.94E+03
375	Environmental and other technical consulting services	1.53E+05	4.60E+02	4.21E+01	1.53E+05
376	Scientific research and development services	0.00E+00	3.01E+02	9.57E+01	3.97E+02
377	Advertising and related services	0.00E+00	1.39E+02	8.05E+01	2.19E+02
378	Photographic services	0.00E+00	1.59E+02	1.36E+01	1.73E+02
379	Veterinary services	0.00E+00	3.96E-01	1.47E+02	1.47E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	3.04E+01	9.32E+00	3.97E+01
381	Management of companies and enterprises	0.00E+00	7.56E+02	2.47E+02	1.00E+03
382	Employment services	0.00E+00	1.23E+03	1.11E+02	1.34E+03
383	Travel arrangement and reservation services	0.00E+00	5.48E+01	9.36E+00	6.42E+01
384	Office administrative services	0.00E+00	5.38E+02	5.04E+01	5.88E+02
386	Business support services	0.00E+00	2.55E+02	6.73E+01	3.22E+02
387	Investigation and security services	0.00E+00	4.13E+02	1.07E+02	5.20E+02
388	Services to buildings and dwellings	0.00E+00	8.70E+02	2.99E+02	1.17E+03
389	Other support services	0.00E+00	1.86E+02	1.43E+01	2.01E+02
390	Waste management and remediation services	0.00E+00	1.24E+02	1.35E+02	2.59E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	2.80E+02	2.80E+02
393	Other private educational services	0.00E+00	2.07E+00	1.87E+02	1.89E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	9.12E-03	3.23E+03	3.23E+03
395	Home health care services	0.00E+00	0.00E+00	1.84E+02	1.84E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	5.68E-01	9.77E+02	9.77E+02
397	Private hospitals	0.00E+00	7.72E-03	2.02E+03	2.02E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.21E+03	1.21E+03
399	Child day care services	0.00E+00	0.00E+00	2.83E+02	2.83E+02
400	Individual and family services	0.00E+00	0.00E+00	3.47E+02	3.47E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.39E-05	2.59E+02	2.59E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Labor Income			
ID	Description	Direct	Indirect	Induced	Total
402	Performing arts companies	0.00E+00	3.20E+00	2.21E+00	5.41E+00
403	Spectator sports companies	0.00E+00	6.76E+01	7.72E+01	1.45E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	3.84E+00	3.93E+00	7.77E+00
405	Independent artists, writers, and performers	0.00E+00	1.34E+02	3.18E+01	1.66E+02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	3.04E+00	3.04E+00
407	Fitness and recreational sports centers	0.00E+00	2.37E+01	4.19E+01	6.56E+01
408	Bowling centers	0.00E+00	2.40E-02	1.96E+00	1.99E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	9.85E-02	7.86E+01	7.87E+01
410	Other amusement and recreation industries	0.00E+00	4.65E+01	8.63E+01	1.33E+02
411	Hotels and motels, including casino hotels	0.00E+00	7.38E+00	6.90E+00	1.43E+01
412	Other accommodations	0.00E+00	9.80E-03	1.18E-02	2.16E-02
413	Food services and drinking places	0.00E+00	1.08E+03	1.89E+03	2.97E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	4.68E+02	4.63E+02	9.31E+02
415	Car washes	0.00E+00	1.37E+01	3.87E+01	5.24E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	4.94E+02	4.49E+01	5.38E+02
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	4.04E+02	7.30E+01	4.77E+02
418	Personal and household goods repair and maintenance	0.00E+00	3.79E+01	2.00E+01	5.79E+01
419	Personal care services	0.00E+00	2.82E-05	2.12E+02	2.12E+02
420	Death care services	0.00E+00	0.00E+00	8.77E+00	8.77E+00
421	Dry-cleaning and laundry services	0.00E+00	6.65E+01	1.14E+02	1.80E+02
422	Other personal services	0.00E+00	7.68E+02	2.02E+02	9.70E+02
423	Religious organizations	0.00E+00	0.00E+00	1.03E+02	1.03E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.72E-01	3.92E+02	3.93E+02
425	Civic, social, professional, and similar organizations	0.00E+00	2.93E+02	7.91E+02	1.08E+03
426	Private household operations	0.00E+00	0.00E+00	3.16E+02	3.16E+02
427	US Postal Service	0.00E+00	6.25E+02	3.42E+02	9.67E+02
429	Other Federal Government enterprises	0.00E+00	1.32E+01	2.92E+01	4.25E+01
430	State and local government passenger transit	0.00E+00	2.16E+02	1.59E+02	3.75E+02
431	State and local government electric utilities	0.00E+00	3.21E+01	8.05E+01	1.13E+02
432	Other state and local government enterprises	0.00E+00	2.86E+02	8.16E+02	1.10E+03

Annual Site Monitoring		Value Added			
ID	Description	Direct	Indirect	Induced	Total
0	Total	1.53E+05	4.14E+04	6.34E+04	2.58E+05
1	Oilseed farming	0.00E+00	4.53E-01	8.79E-01	1.33E+00
2	Grain farming	0.00E+00	2.20E+00	6.77E+00	8.97E+00
3	Vegetable and melon farming	0.00E+00	1.19E+00	7.77E+01	7.89E+01
4	Fruit farming	0.00E+00	1.83E+00	7.56E+01	7.74E+01
5	Tree nut farming	0.00E+00	3.46E+00	1.74E+01	2.08E+01
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.23E-01	2.29E+00	2.42E+00
9	Sugarcane and sugar beet farming	0.00E+00	3.37E-02	3.07E-02	6.44E-02
10	All other crop farming	0.00E+00	4.13E+00	6.27E+00	1.04E+01
11	Cattle ranching and farming	0.00E+00	7.57E-02	3.28E-01	4.04E-01
12	Dairy cattle and milk production	0.00E+00	1.44E+00	2.72E+00	4.16E+00
13	Poultry and egg production	0.00E+00	9.25E-03	8.99E-01	9.08E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Value Added			
ID	Description	Direct	Indirect	Induced	Total
14	Animal production, except cattle and poultry and eggs	0.00E+00	5.13E-01	7.84E+00	8.35E+00
15	Forestry, forest products, and timber tract production	0.00E+00	1.78E-01	5.33E-01	7.10E-01
18	Commercial hunting and trapping	0.00E+00	0.00E+00	3.30E-01	3.30E-01
19	Support activities for agriculture and forestry	0.00E+00	4.44E+00	4.80E+01	5.25E+01
20	Extraction of oil and natural gas	0.00E+00	1.33E+01	3.16E+01	4.49E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	2.87E+00	4.71E+00	7.57E+00
29	Support activities for oil and gas operations	0.00E+00	5.60E-01	1.01E+00	1.58E+00
31	Electric power generation, transmission, and distribution	0.00E+00	4.68E+02	1.19E+03	1.66E+03
32	Natural gas distribution	0.00E+00	4.74E+00	1.44E+01	1.91E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	3.50E-01	2.39E+00	2.74E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	3.79E+02	3.72E+02	7.51E+02
40	Maintenance and repair construction of residential structures	0.00E+00	8.87E+00	1.35E+02	1.44E+02
41	Dog and cat food manufacturing	0.00E+00	1.30E-02	8.06E-01	8.19E-01
42	Other animal food manufacturing	0.00E+00	6.09E-01	7.64E+00	8.25E+00
43	Flour milling and malt manufacturing	0.00E+00	6.05E-01	1.46E+01	1.52E+01
52	Nonchocolate confectionery manufacturing	0.00E+00	3.28E-02	8.96E-01	9.29E-01
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	1.09E+00	2.03E+01	2.14E+01
62	Bread and bakery product manufacturing	0.00E+00	6.41E-02	1.25E+00	1.31E+00
64	Tortilla manufacturing	0.00E+00	2.62E-03	1.81E+00	1.81E+00
69	All other food manufacturing	0.00E+00	3.35E-01	3.78E+00	4.12E+00
70	Soft drink and ice manufacturing	0.00E+00	3.81E+00	1.22E+02	1.26E+02
71	Breweries	0.00E+00	1.09E+00	4.36E+01	4.47E+01
72	Wineries	0.00E+00	6.51E-01	1.59E+01	1.65E+01
76	Broadwoven fabric mills	0.00E+00	2.16E-02	2.83E-01	3.05E-01
80	Textile and fabric finishing mills	0.00E+00	1.67E-01	1.04E+00	1.20E+00
84	Textile bag and canvas mills	0.00E+00	4.20E-03	2.30E-02	2.72E-02
85	All other textile product mills	0.00E+00	1.95E-01	5.06E-01	7.02E-01
87	Cut and sew apparel contractors	0.00E+00	7.20E-01	2.07E+00	2.79E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	3.06E-04	4.15E-02	4.19E-02
93	Footwear manufacturing	0.00E+00	5.67E-13	4.14E-01	4.14E-01
95	Sawmills and wood preservation	0.00E+00	3.02E+00	5.84E+00	8.86E+00
97	Engineered wood member and truss manufacturing	0.00E+00	7.84E-02	1.73E-01	2.52E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	1.11E-01	2.29E-01	3.40E-01
100	Wood container and pallet manufacturing	0.00E+00	3.36E+00	9.90E+00	1.33E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	3.80E-02	5.00E-02	8.80E-02
103	All other miscellaneous wood product manufacturing	0.00E+00	9.35E-02	4.14E-01	5.08E-01
107	Paperboard container manufacturing	0.00E+00	5.31E+01	1.82E+01	7.13E+01
113	Printing	0.00E+00	1.39E+02	7.16E+01	2.11E+02
114	Support activities for printing	0.00E+00	2.43E-01	2.61E-02	2.69E-01
130	Fertilizer manufacturing	0.00E+00	1.26E+00	4.90E+00	6.16E+00
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	1.43E+00	3.27E+01	3.41E+01
133	Pharmaceutical preparation manufacturing	0.00E+00	6.71E-03	5.03E+00	5.04E+00
134	In-vitro diagnostic substance manufacturing	0.00E+00	1.68E-03	4.29E-02	4.46E-02
135	Biological product (except diagnostic) manufacturing	0.00E+00	1.98E-01	2.45E+00	2.65E+00
140	Printing ink manufacturing	0.00E+00	6.89E-01	3.07E-01	9.97E-01
141	All other chemical product and preparation manufacturing	0.00E+00	1.85E-01	8.01E-02	2.65E-01
142	Plastics packaging materials and unlaminated film and sheet	0.00E+00	5.32E-01	6.58E-01	1.19E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Value Added			
ID	Description	Direct	Indirect	Induced	Total
	manufacturing				
145	Laminated plastics plate, sheet (except packaging), and shape manufacturing	0.00E+00	1.51E+00	7.56E-01	2.27E+00
149	Other plastics product manufacturing	0.00E+00	1.38E+00	1.89E+00	3.27E+00
150	Tire manufacturing	0.00E+00	1.95E-01	1.14E+00	1.33E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	6.92E+00	8.27E+00	1.52E+01
163	Other concrete product manufacturing	0.00E+00	1.67E+01	1.46E+01	3.13E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	4.41E-01	1.22E+00	1.66E+00
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	8.17E+01	1.38E+00	8.31E+01
186	Plate work and fabricated structural product manufacturing	0.00E+00	8.93E-01	1.10E+00	1.99E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	1.77E+00	2.24E+00	4.00E+00
194	Spring and wire product manufacturing	0.00E+00	4.67E-01	5.25E-01	9.92E-01
195	Machine shops	0.00E+00	3.45E-01	1.18E-01	4.63E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	2.45E-02	2.34E-02	4.78E-02
198	Valve and fittings other than plumbing manufacturing	0.00E+00	5.43E-01	5.65E-01	1.11E+00
203	Farm machinery and equipment manufacturing	0.00E+00	4.34E-02	1.03E-01	1.46E-01
205	Construction machinery manufacturing	0.00E+00	3.04E-03	1.34E-03	4.38E-03
206	Mining and oil and gas field machinery manufacturing	0.00E+00	2.44E-02	1.55E-02	3.99E-02
207	Other industrial machinery manufacturing	0.00E+00	1.06E-02	2.33E-02	3.40E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	9.83E-04	1.22E-03	2.20E-03
211	Optical instrument and lens manufacturing	0.00E+00	1.07E-03	2.82E-03	3.89E-03
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	6.36E-03	1.04E-03	7.39E-03
226	Pump and pumping equipment manufacturing	0.00E+00	6.07E-03	1.00E-02	1.61E-02
228	Material handling equipment manufacturing	0.00E+00	5.92E-03	8.20E-03	1.41E-02
233	Fluid power process machinery manufacturing	0.00E+00	3.20E-02	1.90E-02	5.09E-02
234	Electronic computer manufacturing	0.00E+00	1.15E-01	1.23E-01	2.38E-01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	1.16E+00	5.51E-01	1.71E+00
237	Telephone apparatus manufacturing	0.00E+00	2.86E-02	2.42E-02	5.28E-02
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	6.60E-03	1.33E-02	1.99E-02
240	Audio and video equipment manufacturing	0.00E+00	2.60E-03	1.35E-02	1.61E-02
241	Electron tube manufacturing	0.00E+00	1.33E-02	6.30E-03	1.96E-02
243	Semiconductor and related device manufacturing	0.00E+00	1.00E-01	6.41E-02	1.64E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	6.54E-02	3.83E-02	1.04E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	2.77E-03	8.35E-03	1.11E-02
250	Automatic environmental control manufacturing	0.00E+00	7.13E-03	6.59E-03	1.37E-02
251	Industrial process variable instruments manufacturing	0.00E+00	2.02E-02	1.42E-02	3.44E-02
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	1.59E-02	3.33E-02	4.92E-02
253	Electricity and signal testing instruments manufacturing	0.00E+00	2.30E-03	2.99E-03	5.29E-03
269	Relay and industrial control manufacturing	0.00E+00	9.98E-03	8.91E-03	1.89E-02
273	Wiring device manufacturing	0.00E+00	8.05E-01	1.21E+00	2.02E+00
279	Motor vehicle body manufacturing	0.00E+00	3.21E-02	6.08E-02	9.30E-02
280	Truck trailer manufacturing	0.00E+00	2.35E-03	3.65E-03	6.00E-03
282	Travel trailer and camper manufacturing	0.00E+00	1.25E-01	1.05E+00	1.18E+00
283	Motor vehicle parts manufacturing	0.00E+00	3.82E-01	5.94E-01	9.75E-01
284	Aircraft manufacturing	0.00E+00	2.07E-03	6.22E-03	8.29E-03
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	6.62E-04	1.27E-02	1.34E-02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Value Added			
ID	Description	Direct	Indirect	Induced	Total
294	All other transportation equipment manufacturing	0.00E+00	3.75E-03	2.28E-01	2.31E-01
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	2.05E-02	1.22E-01	1.43E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	2.91E-05	6.76E-02	6.76E-02
300	Office Furniture	0.00E+00	5.07E-04	7.25E-01	7.25E-01
304	Blind and shade manufacturing	0.00E+00	6.73E-01	7.43E-01	1.42E+00
312	Doll, toy, and game manufacturing	0.00E+00	3.34E-02	4.04E+00	4.07E+00
313	Office supplies (except paper) manufacturing	0.00E+00	1.71E-01	7.51E-02	2.46E-01
317	All other miscellaneous manufacturing	0.00E+00	3.17E+00	2.51E+00	5.68E+00
319	Wholesale trade businesses	0.00E+00	7.60E+02	3.53E+03	4.29E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	1.43E+01	1.13E+03	1.15E+03
321	Retail Stores - Furniture and home furnishings	0.00E+00	2.30E+00	3.81E+02	3.84E+02
322	Retail Stores - Electronics and appliances	0.00E+00	1.21E+00	1.66E+02	1.67E+02
323	Retail Stores - Building material and garden supply	0.00E+00	1.11E+01	6.18E+02	6.29E+02
324	Retail Stores - Food and beverage	0.00E+00	1.25E+01	1.67E+03	1.68E+03
325	Retail Stores - Health and personal care	0.00E+00	4.05E+00	5.30E+02	5.34E+02
326	Retail Stores - Gasoline stations	0.00E+00	5.54E+00	5.76E+02	5.82E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	1.60E+00	2.33E+02	2.35E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	2.05E+00	2.93E+02	2.95E+02
329	Retail Stores - General merchandise	0.00E+00	1.19E+01	1.60E+03	1.61E+03
330	Retail Stores - Miscellaneous	0.00E+00	2.86E+00	3.98E+02	4.01E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	1.88E+00	3.12E+02	3.14E+02
332	Transport by air	0.00E+00	2.47E-01	2.68E-01	5.15E-01
333	Transport by rail	0.00E+00	1.23E+01	1.06E+01	2.28E+01
334	Transport by water	0.00E+00	5.26E-01	2.58E+00	3.10E+00
335	Transport by truck	0.00E+00	2.59E+02	5.23E+02	7.82E+02
336	Transit and ground passenger transportation	0.00E+00	2.13E+02	1.56E+02	3.69E+02
337	Transport by pipeline	0.00E+00	4.22E-01	1.74E+00	2.16E+00
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	2.35E+02	1.36E+02	3.70E+02
339	Couriers and messengers	0.00E+00	6.41E+02	2.40E+02	8.81E+02
340	Warehousing and storage	0.00E+00	1.94E+02	2.13E+02	4.07E+02
341	Newspaper publishers	0.00E+00	7.78E+01	9.17E+01	1.70E+02
342	Periodical publishers	0.00E+00	1.39E+01	6.28E+00	2.02E+01
343	Book publishers	0.00E+00	1.59E-01	5.91E-01	7.50E-01
344	Directory, mailing list, and other publishers	0.00E+00	1.77E+01	7.66E+00	2.54E+01
345	Software publishers	0.00E+00	5.04E+00	6.81E-01	5.72E+00
346	Motion picture and video industries	0.00E+00	9.45E+01	1.15E+02	2.09E+02
347	Sound recording industries	0.00E+00	2.03E+00	2.07E+01	2.27E+01
348	Radio and television broadcasting	0.00E+00	3.04E+02	1.84E+02	4.88E+02
349	Cable and other subscription programming	0.00E+00	1.69E+01	1.17E+01	2.85E+01
350	Internet publishing and broadcasting	0.00E+00	1.14E+02	2.49E+01	1.39E+02
351	Telecommunications	0.00E+00	2.70E+03	1.71E+03	4.42E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	2.78E+01	6.80E+01	9.58E+01
353	Other information services	0.00E+00	5.65E+00	6.92E+00	1.26E+01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	2.08E+03	2.16E+03	4.24E+03
355	Nondepository credit intermediation and related activities	0.00E+00	5.46E+02	1.07E+03	1.61E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	6.57E+01	1.71E+02	2.37E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Value Added			
ID	Description	Direct	Indirect	Induced	Total
357	Insurance carriers	0.00E+00	6.97E+02	6.70E+02	1.37E+03
358	Insurance agencies, brokerages, and related activities	0.00E+00	3.51E+02	2.69E+02	6.20E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	1.43E+01	4.85E+02	4.99E+02
360	Real estate establishments	0.00E+00	6.90E+03	6.49E+03	1.34E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	1.34E+04	1.34E+04
362	Automotive equipment rental and leasing	0.00E+00	4.06E+02	3.32E+02	7.38E+02
363	General and consumer goods rental except video tapes and discs	0.00E+00	1.19E+01	4.23E+01	5.42E+01
364	Video tape and disc rental	0.00E+00	0.00E+00	3.59E+01	3.59E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	2.33E+02	6.16E+01	2.95E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	2.26E+02	4.59E+01	2.72E+02
367	Legal services	0.00E+00	4.45E+02	2.95E+02	7.39E+02
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	8.47E+02	1.64E+02	1.01E+03
369	Architectural, engineering, and related services	0.00E+00	4.90E+03	1.96E+02	5.10E+03
370	Specialized design services	0.00E+00	1.53E+02	2.78E+01	1.81E+02
371	Custom computer programming services	0.00E+00	1.18E+02	1.49E+01	1.33E+02
372	Computer systems design services	0.00E+00	1.56E+01	1.93E+00	1.75E+01
373	Other computer related services, including facilities management	0.00E+00	1.91E+02	2.02E+01	2.12E+02
374	Management, scientific, and technical consulting services	0.00E+00	2.81E+03	3.71E+02	3.18E+03
375	Environmental and other technical consulting services	1.53E+05	4.62E+02	4.23E+01	1.54E+05
376	Scientific research and development services	0.00E+00	3.02E+02	9.58E+01	3.98E+02
377	Advertising and related services	0.00E+00	3.56E+02	2.07E+02	5.63E+02
378	Photographic services	0.00E+00	4.20E+02	3.60E+01	4.56E+02
379	Veterinary services	0.00E+00	3.97E-01	1.48E+02	1.48E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.16E+02	3.57E+01	1.52E+02
381	Management of companies and enterprises	0.00E+00	8.90E+02	2.91E+02	1.18E+03
382	Employment services	0.00E+00	1.35E+03	1.22E+02	1.47E+03
383	Travel arrangement and reservation services	0.00E+00	1.21E+02	2.07E+01	1.42E+02
384	Office administrative services	0.00E+00	4.89E+02	4.58E+01	5.35E+02
386	Business support services	0.00E+00	2.51E+02	6.64E+01	3.17E+02
387	Investigation and security services	0.00E+00	4.24E+02	1.10E+02	5.34E+02
388	Services to buildings and dwellings	0.00E+00	1.22E+03	4.19E+02	1.64E+03
389	Other support services	0.00E+00	3.77E+02	2.89E+01	4.06E+02
390	Waste management and remediation services	0.00E+00	2.32E+02	2.53E+02	4.85E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	1.15E+02	1.15E+02
393	Other private educational services	0.00E+00	1.98E+00	1.79E+02	1.81E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	9.38E-03	3.33E+03	3.33E+03
395	Home health care services	0.00E+00	0.00E+00	1.87E+02	1.87E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	7.52E-01	1.29E+03	1.29E+03
397	Private hospitals	0.00E+00	8.40E-03	2.20E+03	2.20E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	1.40E+03	1.40E+03
399	Child day care services	0.00E+00	0.00E+00	3.79E+02	3.79E+02
400	Individual and family services	0.00E+00	0.00E+00	3.32E+02	3.32E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	1.34E-05	2.50E+02	2.50E+02

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Value Added			
ID	Description	Direct	Indirect	Induced	Total
402	Performing arts companies	0.00E+00	2.54E+00	1.76E+00	4.29E+00
403	Spectator sports companies	0.00E+00	7.87E+01	8.98E+01	1.69E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	7.70E+00	7.89E+00	1.56E+01
405	Independent artists, writers, and performers	0.00E+00	2.41E+02	5.69E+01	2.98E+02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	1.73E+01	1.73E+01
407	Fitness and recreational sports centers	0.00E+00	4.62E+01	8.18E+01	1.28E+02
408	Bowling centers	0.00E+00	7.10E-02	5.81E+00	5.89E+00
409	Amusement parks, arcades, and gambling industries	0.00E+00	3.39E-01	2.71E+02	2.71E+02
410	Other amusement and recreation industries	0.00E+00	8.57E+01	1.59E+02	2.45E+02
411	Hotels and motels, including casino hotels	0.00E+00	1.95E+01	1.82E+01	3.77E+01
412	Other accommodations	0.00E+00	1.53E-02	1.84E-02	3.37E-02
413	Food services and drinking places	0.00E+00	1.83E+03	3.21E+03	5.04E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	5.42E+02	5.36E+02	1.08E+03
415	Car washes	0.00E+00	1.54E+01	4.37E+01	5.91E+01
416	Electronic and precision equipment repair and maintenance	0.00E+00	7.32E+02	6.66E+01	7.99E+02
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	5.29E+02	9.56E+01	6.24E+02
418	Personal and household goods repair and maintenance	0.00E+00	5.27E+01	2.79E+01	8.07E+01
419	Personal care services	0.00E+00	3.05E-05	2.30E+02	2.30E+02
420	Death care services	0.00E+00	0.00E+00	6.25E+00	6.25E+00
421	Dry-cleaning and laundry services	0.00E+00	6.77E+01	1.16E+02	1.84E+02
422	Other personal services	0.00E+00	9.38E+02	2.46E+02	1.18E+03
423	Religious organizations	0.00E+00	0.00E+00	1.17E+02	1.17E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	1.67E-01	3.81E+02	3.81E+02
425	Civic, social, professional, and similar organizations	0.00E+00	2.93E+02	7.90E+02	1.08E+03
426	Private household operations	0.00E+00	0.00E+00	3.16E+02	3.16E+02
427	US Postal Service	0.00E+00	6.11E+02	3.34E+02	9.44E+02
429	Other Federal Government enterprises	0.00E+00	1.72E+01	3.81E+01	5.53E+01
430	State and local government passenger transit	0.00E+00	1.68E+01	1.23E+01	2.92E+01
431	State and local government electric utilities	0.00E+00	5.59E+01	1.40E+02	1.96E+02
432	Other state and local government enterprises	0.00E+00	2.42E+02	6.92E+02	9.34E+02

Annual Site Monitoring		Output			
ID	Description	Direct	Indirect	Induced	Total
0	Total	2.50E+05	7.04E+04	9.88E+04	4.19E+05
1	Oilseed farming	0.00E+00	1.00E+00	1.95E+00	2.95E+00
2	Grain farming	0.00E+00	9.87E+00	3.03E+01	4.02E+01
3	Vegetable and melon farming	0.00E+00	2.13E+00	1.40E+02	1.42E+02
4	Fruit farming	0.00E+00	3.16E+00	1.30E+02	1.33E+02
5	Tree nut farming	0.00E+00	5.78E+00	2.90E+01	3.48E+01
6	Greenhouse, nursery, and floriculture production	0.00E+00	1.71E-01	3.17E+00	3.35E+00
9	Sugarcane and sugar beet farming	0.00E+00	7.42E-02	6.76E-02	1.42E-01
10	All other crop farming	0.00E+00	1.22E+01	1.86E+01	3.08E+01
11	Cattle ranching and farming	0.00E+00	4.28E-01	1.86E+00	2.29E+00
12	Dairy cattle and milk production	0.00E+00	3.69E+00	7.00E+00	1.07E+01
13	Poultry and egg production	0.00E+00	4.78E-02	4.65E+00	4.69E+00
14	Animal production, except cattle and poultry and eggs	0.00E+00	9.85E-01	1.51E+01	1.60E+01
15	Forestry, forest products, and timber tract production	0.00E+00	3.12E-01	9.35E-01	1.25E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Output			
ID	Description	Direct	Indirect	Induced	Total
18	Commercial hunting and trapping	0.00E+00	0.00E+00	7.62E-01	7.62E-01
19	Support activities for agriculture and forestry	0.00E+00	5.39E+00	5.83E+01	6.36E+01
20	Extraction of oil and natural gas	0.00E+00	2.14E+01	5.09E+01	7.23E+01
26	Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	0.00E+00	4.96E+00	8.15E+00	1.31E+01
29	Support activities for oil and gas operations	0.00E+00	1.49E+00	2.69E+00	4.18E+00
31	Electric power generation, transmission, and distribution	0.00E+00	5.24E+02	1.33E+03	1.86E+03
32	Natural gas distribution	0.00E+00	1.11E+01	3.35E+01	4.46E+01
33	Water, sewage and other treatment and delivery systems	0.00E+00	4.39E-01	3.00E+00	3.44E+00
39	Maintenance and repair construction of nonresidential structures	0.00E+00	6.76E+02	6.65E+02	1.34E+03
40	Maintenance and repair construction of residential structures	0.00E+00	1.86E+01	2.84E+02	3.03E+02
41	Dog and cat food manufacturing	0.00E+00	3.55E-02	2.20E+00	2.23E+00
42	Other animal food manufacturing	0.00E+00	3.73E+00	4.68E+01	5.06E+01
43	Flour milling and malt manufacturing	0.00E+00	4.35E+00	1.05E+02	1.10E+02
52	Nonchocolate confectionery manufacturing	0.00E+00	1.13E-01	3.09E+00	3.20E+00
54	Fruit and vegetable canning, pickling, and drying	0.00E+00	4.46E+00	8.31E+01	8.76E+01
62	Bread and bakery product manufacturing	0.00E+00	3.36E-01	6.54E+00	6.88E+00
64	Tortilla manufacturing	0.00E+00	1.17E-02	8.05E+00	8.07E+00
69	All other food manufacturing	0.00E+00	1.26E+00	1.42E+01	1.55E+01
70	Soft drink and ice manufacturing	0.00E+00	2.51E+01	8.03E+02	8.28E+02
71	Breweries	0.00E+00	2.45E+00	9.84E+01	1.01E+02
72	Wineries	0.00E+00	2.10E+00	5.12E+01	5.33E+01
76	Broadwoven fabric mills	0.00E+00	6.89E-02	9.02E-01	9.71E-01
80	Textile and fabric finishing mills	0.00E+00	6.04E-01	3.74E+00	4.34E+00
84	Textile bag and canvas mills	0.00E+00	8.89E-03	4.87E-02	5.76E-02
85	All other textile product mills	0.00E+00	5.28E-01	1.37E+00	1.90E+00
87	Cut and sew apparel contractors	0.00E+00	1.49E+00	4.28E+00	5.76E+00
91	Apparel accessories and other apparel manufacturing	0.00E+00	1.63E-03	2.20E-01	2.22E-01
93	Footwear manufacturing	0.00E+00	1.48E-12	1.08E+00	1.08E+00
95	Sawmills and wood preservation	0.00E+00	1.16E+01	2.24E+01	3.40E+01
97	Engineered wood member and truss manufacturing	0.00E+00	2.01E-01	4.45E-01	6.46E-01
99	Wood windows and doors and millwork manufacturing	0.00E+00	3.54E-01	7.29E-01	1.08E+00
100	Wood container and pallet manufacturing	0.00E+00	7.33E+00	2.16E+01	2.89E+01
101	Manufactured home (mobile home) manufacturing	0.00E+00	1.31E-01	1.72E-01	3.03E-01
103	All other miscellaneous wood product manufacturing	0.00E+00	2.29E-01	1.02E+00	1.24E+00
107	Paperboard container manufacturing	0.00E+00	2.35E+02	8.05E+01	3.16E+02
113	Printing	0.00E+00	3.57E+02	1.84E+02	5.41E+02
114	Support activities for printing	0.00E+00	4.58E-01	4.92E-02	5.07E-01
130	Fertilizer manufacturing	0.00E+00	9.23E+00	3.60E+01	4.52E+01
131	Pesticide and other agricultural chemical manufacturing	0.00E+00	4.80E+00	1.10E+02	1.14E+02
133	Pharmaceutical preparation manufacturing	0.00E+00	2.25E-02	1.69E+01	1.69E+01
134	In-vitro diagnostic substance manufacturing	0.00E+00	9.68E-03	2.47E-01	2.57E-01
135	Biological product (except diagnostic) manufacturing	0.00E+00	7.12E-01	8.83E+00	9.54E+00
140	Printing ink manufacturing	0.00E+00	2.73E+00	1.22E+00	3.95E+00
141	All other chemical product and preparation manufacturing	0.00E+00	6.27E-01	2.72E-01	8.99E-01
142	Plastics packaging materials and unlaminated film and sheet manufacturing	0.00E+00	1.59E+00	1.97E+00	3.56E+00
145	Laminated plastics plate, sheet (except packaging), and	0.00E+00	4.09E+00	2.05E+00	6.14E+00

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Output			
ID	Description	Direct	Indirect	Induced	Total
	shape manufacturing				
149	Other plastics product manufacturing	0.00E+00	3.96E+00	5.42E+00	9.39E+00
150	Tire manufacturing	0.00E+00	6.62E-01	3.85E+00	4.52E+00
162	Concrete pipe, brick, and block manufacturing	0.00E+00	1.48E+01	1.77E+01	3.24E+01
163	Other concrete product manufacturing	0.00E+00	3.31E+01	2.91E+01	6.22E+01
167	Ground or treated mineral and earth manufacturing	0.00E+00	9.42E-01	2.60E+00	3.54E+00
169	Miscellaneous nonmetallic mineral product manufacturing	0.00E+00	2.09E+02	3.53E+00	2.12E+02
186	Plate work and fabricated structural product manufacturing	0.00E+00	2.18E+00	2.69E+00	4.87E+00
187	Ornamental and architectural metal products manufacturing	0.00E+00	4.75E+00	6.02E+00	1.08E+01
194	Spring and wire product manufacturing	0.00E+00	1.01E+00	1.14E+00	2.16E+00
195	Machine shops	0.00E+00	6.69E-01	2.29E-01	8.99E-01
197	Coating, engraving, heat treating and allied activities	0.00E+00	5.68E-02	5.43E-02	1.11E-01
198	Valve and fittings other than plumbing manufacturing	0.00E+00	1.10E+00	1.14E+00	2.24E+00
203	Farm machinery and equipment manufacturing	0.00E+00	1.60E-01	3.79E-01	5.39E-01
205	Construction machinery manufacturing	0.00E+00	1.41E-02	6.25E-03	2.04E-02
206	Mining and oil and gas field machinery manufacturing	0.00E+00	7.36E-02	4.65E-02	1.20E-01
207	Other industrial machinery manufacturing	0.00E+00	2.75E-02	6.04E-02	8.79E-02
208	Plastics and rubber industry machinery manufacturing	0.00E+00	4.57E-03	5.68E-03	1.02E-02
211	Optical instrument and lens manufacturing	0.00E+00	3.87E-03	1.02E-02	1.41E-02
220	Cutting tool and machine tool accessory manufacturing	0.00E+00	1.80E-02	2.94E-03	2.10E-02
226	Pump and pumping equipment manufacturing	0.00E+00	2.06E-02	3.41E-02	5.46E-02
228	Material handling equipment manufacturing	0.00E+00	2.54E-02	3.51E-02	6.05E-02
233	Fluid power process machinery manufacturing	0.00E+00	8.69E-02	5.16E-02	1.38E-01
234	Electronic computer manufacturing	0.00E+00	2.06E-01	2.19E-01	4.25E-01
236	Computer terminals and other computer peripheral equipment manufacturing	0.00E+00	2.26E+00	1.07E+00	3.32E+00
237	Telephone apparatus manufacturing	0.00E+00	7.69E-02	6.50E-02	1.42E-01
238	Broadcast and wireless communications equipment manufacturing	0.00E+00	3.49E-02	7.02E-02	1.05E-01
240	Audio and video equipment manufacturing	0.00E+00	1.13E-02	5.90E-02	7.03E-02
241	Electron tube manufacturing	0.00E+00	4.39E-02	2.08E-02	6.47E-02
243	Semiconductor and related device manufacturing	0.00E+00	1.78E-01	1.14E-01	2.92E-01
246	Printed circuit assembly (electronic assembly) manufacturing	0.00E+00	2.35E-01	1.38E-01	3.73E-01
249	Search, detection, and navigation instruments manufacturing	0.00E+00	7.85E-03	2.37E-02	3.15E-02
250	Automatic environmental control manufacturing	0.00E+00	2.03E-02	1.88E-02	3.91E-02
251	Industrial process variable instruments manufacturing	0.00E+00	6.96E-02	4.89E-02	1.18E-01
252	Totalizing fluid meters and counting devices manufacturing	0.00E+00	7.70E-02	1.61E-01	2.38E-01
253	Electricity and signal testing instruments manufacturing	0.00E+00	5.28E-03	6.84E-03	1.21E-02
269	Relay and industrial control manufacturing	0.00E+00	2.51E-02	2.24E-02	4.74E-02
273	Wiring device manufacturing	0.00E+00	1.59E+00	2.40E+00	3.99E+00
279	Motor vehicle body manufacturing	0.00E+00	8.42E-02	1.59E-01	2.44E-01
280	Truck trailer manufacturing	0.00E+00	9.76E-03	1.51E-02	2.49E-02
282	Travel trailer and camper manufacturing	0.00E+00	6.70E-01	5.64E+00	6.31E+00
283	Motor vehicle parts manufacturing	0.00E+00	2.54E+00	3.95E+00	6.50E+00
284	Aircraft manufacturing	0.00E+00	9.13E-03	2.74E-02	3.65E-02
292	Motorcycle, bicycle, and parts manufacturing	0.00E+00	4.57E-03	8.76E-02	9.22E-02
294	All other transportation equipment manufacturing	0.00E+00	1.50E-02	9.13E-01	9.28E-01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Output			
ID	Description	Direct	Indirect	Induced	Total
295	Wood kitchen cabinet and countertop manufacturing	0.00E+00	5.43E-02	3.24E-01	3.78E-01
297	Nonupholstered wood household furniture manufacturing	0.00E+00	5.84E-05	1.36E-01	1.36E-01
300	Office Furniture	0.00E+00	1.15E-03	1.65E+00	1.65E+00
304	Blind and shade manufacturing	0.00E+00	2.26E+00	2.49E+00	4.75E+00
312	Doll, toy, and game manufacturing	0.00E+00	5.10E-02	6.17E+00	6.22E+00
313	Office supplies (except paper) manufacturing	0.00E+00	2.66E-01	1.17E-01	3.83E-01
317	All other miscellaneous manufacturing	0.00E+00	5.55E+00	4.40E+00	9.95E+00
319	Wholesale trade businesses	0.00E+00	9.58E+02	4.45E+03	5.41E+03
320	Retail Stores - Motor vehicle and parts	0.00E+00	2.35E+01	1.86E+03	1.89E+03
321	Retail Stores - Furniture and home furnishings	0.00E+00	3.42E+00	5.67E+02	5.70E+02
322	Retail Stores - Electronics and appliances	0.00E+00	2.36E+00	3.23E+02	3.25E+02
323	Retail Stores - Building material and garden supply	0.00E+00	1.56E+01	8.71E+02	8.86E+02
324	Retail Stores - Food and beverage	0.00E+00	1.62E+01	2.16E+03	2.17E+03
325	Retail Stores - Health and personal care	0.00E+00	5.85E+00	7.65E+02	7.71E+02
326	Retail Stores - Gasoline stations	0.00E+00	7.07E+00	7.36E+02	7.43E+02
327	Retail Stores - Clothing and clothing accessories	0.00E+00	2.80E+00	4.07E+02	4.10E+02
328	Retail Stores - Sporting goods, hobby, book and music	0.00E+00	3.15E+00	4.50E+02	4.53E+02
329	Retail Stores - General merchandise	0.00E+00	1.54E+01	2.06E+03	2.08E+03
330	Retail Stores - Miscellaneous	0.00E+00	4.43E+00	6.16E+02	6.21E+02
331	Retail Nonstores - Direct and electronic sales	0.00E+00	3.45E+00	5.74E+02	5.77E+02
332	Transport by air	0.00E+00	1.51E+00	1.63E+00	3.14E+00
333	Transport by rail	0.00E+00	2.19E+01	1.88E+01	4.07E+01
334	Transport by water	0.00E+00	1.23E+00	6.00E+00	7.23E+00
335	Transport by truck	0.00E+00	4.28E+02	8.65E+02	1.29E+03
336	Transit and ground passenger transportation	0.00E+00	2.62E+02	1.92E+02	4.54E+02
337	Transport by pipeline	0.00E+00	2.49E+00	1.03E+01	1.28E+01
338	Scenic and sightseeing transportation and support activities for transportation	0.00E+00	3.83E+02	2.22E+02	6.04E+02
339	Couriers and messengers	0.00E+00	8.12E+02	3.04E+02	1.12E+03
340	Warehousing and storage	0.00E+00	3.08E+02	3.38E+02	6.45E+02
341	Newspaper publishers	0.00E+00	1.52E+02	1.80E+02	3.32E+02
342	Periodical publishers	0.00E+00	3.93E+01	1.78E+01	5.71E+01
343	Book publishers	0.00E+00	3.61E-01	1.34E+00	1.70E+00
344	Directory, mailing list, and other publishers	0.00E+00	4.22E+01	1.82E+01	6.04E+01
345	Software publishers	0.00E+00	7.99E+00	1.08E+00	9.07E+00
346	Motion picture and video industries	0.00E+00	1.79E+02	2.17E+02	3.96E+02
347	Sound recording industries	0.00E+00	5.58E+00	5.66E+01	6.22E+01
348	Radio and television broadcasting	0.00E+00	8.05E+02	4.88E+02	1.29E+03
349	Cable and other subscription programming	0.00E+00	5.94E+01	4.10E+01	1.00E+02
350	Internet publishing and broadcasting	0.00E+00	2.86E+02	6.27E+01	3.48E+02
351	Telecommunications	0.00E+00	4.75E+03	3.01E+03	7.76E+03
352	Data processing, hosting, ISP, web search portals and related services	0.00E+00	3.93E+01	9.61E+01	1.35E+02
353	Other information services	0.00E+00	7.40E+00	9.06E+00	1.65E+01
354	Monetary authorities and depository credit intermediation activities	0.00E+00	4.44E+03	4.60E+03	9.04E+03
355	Nondepository credit intermediation and related activities	0.00E+00	1.02E+03	1.99E+03	3.01E+03
356	Securities, commodity contracts, investments, and related activities	0.00E+00	8.09E+02	2.11E+03	2.92E+03
357	Insurance carriers	0.00E+00	1.06E+03	1.02E+03	2.09E+03

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Output			
ID	Description	Direct	Indirect	Induced	Total
358	Insurance agencies, brokerages, and related activities	0.00E+00	5.14E+02	3.94E+02	9.08E+02
359	Funds, trusts, and other financial vehicles	0.00E+00	3.37E+01	1.14E+03	1.17E+03
360	Real estate establishments	0.00E+00	7.97E+03	7.49E+03	1.55E+04
361	Imputed rental activity for owner-occupied dwellings	0.00E+00	0.00E+00	1.52E+04	1.52E+04
362	Automotive equipment rental and leasing	0.00E+00	6.58E+02	5.39E+02	1.20E+03
363	General and consumer goods rental except video tapes and discs	0.00E+00	2.28E+01	8.09E+01	1.04E+02
364	Video tape and disc rental	0.00E+00	0.00E+00	6.62E+01	6.62E+01
365	Commercial and industrial machinery and equipment rental and leasing	0.00E+00	4.37E+02	1.15E+02	5.52E+02
366	Lessors of nonfinancial intangible assets	0.00E+00	2.80E+02	5.69E+01	3.37E+02
367	Legal services	0.00E+00	6.34E+02	4.20E+02	1.05E+03
368	Accounting, tax preparation, bookkeeping, and payroll services	0.00E+00	1.28E+03	2.48E+02	1.53E+03
369	Architectural, engineering, and related services	0.00E+00	9.29E+03	3.72E+02	9.66E+03
370	Specialized design services	0.00E+00	1.97E+02	3.57E+01	2.33E+02
371	Custom computer programming services	0.00E+00	2.10E+02	2.67E+01	2.37E+02
372	Computer systems design services	0.00E+00	1.39E+02	1.72E+01	1.56E+02
373	Other computer related services, including facilities management	0.00E+00	2.59E+02	2.73E+01	2.86E+02
374	Management, scientific, and technical consulting services	0.00E+00	4.96E+03	6.56E+02	5.62E+03
375	Environmental and other technical consulting services	2.50E+05	7.54E+02	6.89E+01	2.51E+05
376	Scientific research and development services	0.00E+00	7.00E+02	2.22E+02	9.22E+02
377	Advertising and related services	0.00E+00	5.37E+02	3.12E+02	8.49E+02
378	Photographic services	0.00E+00	5.42E+02	4.64E+01	5.88E+02
379	Veterinary services	0.00E+00	6.45E-01	2.39E+02	2.40E+02
380	All other miscellaneous professional, scientific, and technical services	0.00E+00	1.46E+02	4.47E+01	1.90E+02
381	Management of companies and enterprises	0.00E+00	1.50E+03	4.89E+02	1.98E+03
382	Employment services	0.00E+00	1.73E+03	1.56E+02	1.89E+03
383	Travel arrangement and reservation services	0.00E+00	2.27E+02	3.87E+01	2.65E+02
384	Office administrative services	0.00E+00	8.70E+02	8.16E+01	9.51E+02
386	Business support services	0.00E+00	4.45E+02	1.18E+02	5.63E+02
387	Investigation and security services	0.00E+00	7.18E+02	1.86E+02	9.04E+02
388	Services to buildings and dwellings	0.00E+00	2.43E+03	8.36E+02	3.27E+03
389	Other support services	0.00E+00	6.71E+02	5.14E+01	7.22E+02
390	Waste management and remediation services	0.00E+00	3.75E+02	4.08E+02	7.83E+02
391	Private elementary and secondary schools	0.00E+00	0.00E+00	4.71E+02	4.71E+02
393	Other private educational services	0.00E+00	5.75E+00	5.18E+02	5.24E+02
394	Offices of physicians, dentists, and other health practitioners	0.00E+00	1.43E-02	5.06E+03	5.06E+03
395	Home health care services	0.00E+00	0.00E+00	2.58E+02	2.58E+02
396	Medical and diagnostic labs and outpatient and other ambulatory care services	0.00E+00	1.37E+00	2.36E+03	2.36E+03
397	Private hospitals	0.00E+00	1.37E-02	3.59E+03	3.59E+03
398	Nursing and residential care facilities	0.00E+00	0.00E+00	2.13E+03	2.13E+03
399	Child day care services	0.00E+00	0.00E+00	6.30E+02	6.30E+02
400	Individual and family services	0.00E+00	0.00E+00	4.68E+02	4.68E+02
401	Community food, housing, and other relief services, including rehabilitation services	0.00E+00	2.20E-05	4.09E+02	4.09E+02
402	Performing arts companies	0.00E+00	1.15E+01	7.97E+00	1.95E+01

Economic Impacts Within Yolo County of the Lower Yolo Restoration Project

Annual Site Monitoring		Output			
ID	Description	Direct	Indirect	Induced	Total
403	Spectator sports companies	0.00E+00	3.07E+02	3.50E+02	6.57E+02
404	Promoters of performing arts and sports and agents for public figures	0.00E+00	2.86E+01	2.93E+01	5.79E+01
405	Independent artists, writers, and performers	0.00E+00	4.54E+02	1.07E+02	5.62E+02
406	Museums, historical sites, zoos, and parks	0.00E+00	0.00E+00	3.85E+01	3.85E+01
407	Fitness and recreational sports centers	0.00E+00	9.51E+01	1.69E+02	2.64E+02
408	Bowling centers	0.00E+00	1.23E-01	1.01E+01	1.02E+01
409	Amusement parks, arcades, and gambling industries	0.00E+00	5.95E-01	4.75E+02	4.75E+02
410	Other amusement and recreation industries	0.00E+00	1.37E+02	2.53E+02	3.90E+02
411	Hotels and motels, including casino hotels	0.00E+00	3.75E+01	3.50E+01	7.25E+01
412	Other accommodations	0.00E+00	3.75E-02	4.51E-02	8.26E-02
413	Food services and drinking places	0.00E+00	3.47E+03	6.08E+03	9.55E+03
414	Automotive repair and maintenance, except car washes	0.00E+00	9.21E+02	9.10E+02	1.83E+03
415	Car washes	0.00E+00	2.88E+01	8.16E+01	1.10E+02
416	Electronic and precision equipment repair and maintenance	0.00E+00	1.22E+03	1.11E+02	1.34E+03
417	Commercial and industrial machinery and equipment repair and maintenance	0.00E+00	7.47E+02	1.35E+02	8.82E+02
418	Personal and household goods repair and maintenance	0.00E+00	1.51E+02	7.99E+01	2.31E+02
419	Personal care services	0.00E+00	5.70E-05	4.30E+02	4.30E+02
420	Death care services	0.00E+00	0.00E+00	1.71E+01	1.71E+01
421	Dry-cleaning and laundry services	0.00E+00	8.47E+01	1.45E+02	2.30E+02
422	Other personal services	0.00E+00	2.54E+03	6.66E+02	3.20E+03
423	Religious organizations	0.00E+00	0.00E+00	5.27E+02	5.27E+02
424	Grantmaking, giving, and social advocacy organizations	0.00E+00	3.16E-01	7.20E+02	7.20E+02
425	Civic, social, professional, and similar organizations	0.00E+00	5.27E+02	1.42E+03	1.95E+03
426	Private household operations	0.00E+00	0.00E+00	3.23E+02	3.23E+02
427	US Postal Service	0.00E+00	7.28E+02	3.98E+02	1.13E+03
429	Other Federal Government enterprises	0.00E+00	8.66E+01	1.92E+02	2.79E+02
430	State and local government passenger transit	0.00E+00	1.69E+02	1.24E+02	2.93E+02
431	State and local government electric utilities	0.00E+00	9.60E+01	2.41E+02	3.37E+02
432	Other state and local government enterprises	0.00E+00	7.93E+02	2.26E+03	3.05E+03